

# Rigging

## PERIOD SHIP MODELS

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LENNARTH  
PETERSSON



# Rigging Period Ship Models

*A Step-by-Step Guide  
to the Intricacies  
of Square-Rig*

*Lennarth Petersson*

CHATHAM PUBLISHING

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L O N D O N



# Acknowledgements

It is my intention to limit this book to the classification of the rigging of *Melampus* and no mention is made of the numerous alternative aspects of square rig to be found during the eighteenth century; this work describes the rigging of a specific period and one specific model. I hope the perspective drawings will help towards an understanding of the use of standing and running rigging for modellers and for all with an interest in square rig.

I would like to thank Captain Olof Pipping; my good friend Vernon Gidman; Mr Alan King, curator of the Bristol Industrial Museum; my family and parents for patience and support; and Julian Mannering, editor of Chatham Publishing, for help and advice. Beyond that, I take all the blame.

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# Introduction

I SET OUT TO CREATE this series of detailed drawings because, as a modelmaker, I needed the answers to a number of questions relating to the intricacies of square rig. I could find no publication which allowed me to study a ship's rigging in the way that one can, for example, in front of a model in a museum. And even then, of course, the sheer complexity is confusing and difficult to grasp. Most modelling books, while dealing extensively with hull construction, often approach rigging in a rather cursory fashion. The genesis of this book was, therefore, the desire to fill that gap. I decided to study and depict each item of a ship's rigging on its own, isolated on a page, so that the reader might understand where a particular sheet or halliard, for example, leads and how it functions.

One of the pleasures of researching and putting together all these drawings was the realisation of how logical and functional the rigging of a square-rigged ship is. This really should not have come as a surprise. Sailors are nothing if not practical, and the apparently complicated confection of ropes and tackles is, in fact, a wonderfully simple and ordered creation with no unnecessary or redundant parts. My intention in the book is to show this simplicity and, at the same time, draw to the reader's attention the basic principles by which square-rig functions; throughout the centuries, square-rigged ships have followed the same principles when it has come to catching the wind.

Though these principles have remained the same I felt it important, both for the sake of accuracy and for the benefit of modellers, to draw from a contemporary model, and I decided on an English frigate which should have retained most of its original rigging. By going to a three-dimensional source I hoped to be able to depict the intricate details in the clearest possible manner, and by choosing a contemporary model create a scheme which was authentic. With the help of the publisher I found a suitable model, with much of its original rigging intact, in the Bristol Industrial Museum. It is a beautiful model of the *Melampus*, a 36-gun, 18-pounder frigate. It was donated to the museum in 1844 and while it has received the attention of restorers over the years its rigging is considered a reliable representation. I photographed and sketched the model from every angle and the results of the exercise were the source for the drawings in this book.

*Melampus* seemed a suitable choice not just because of her authenticity but also because of her relatively small size and her long and quite distinguished career. All modelmakers, I'm sure, feel happier working on the model of a prototype which

distinguished herself and *Melampus* had a long career during one of the most turbulent periods of the Royal Navy's history.

She is one of four models of ships which were built by the Bristol yard of James Martin Hillhouse and is assumed to have been commissioned by the builders. The ship herself was launched in 1785 and was one of the biggest frigates of her day. She was one of the first of a new generation of 18-pounder frigates and carried 36 guns rather than the 38 of similarly sized vessels and, subsequently, had more space on her gundeck and performed well at sea. Her reputation spread soon enough and she was coveted as a command by, among others, Prince William Henry – later William IV.

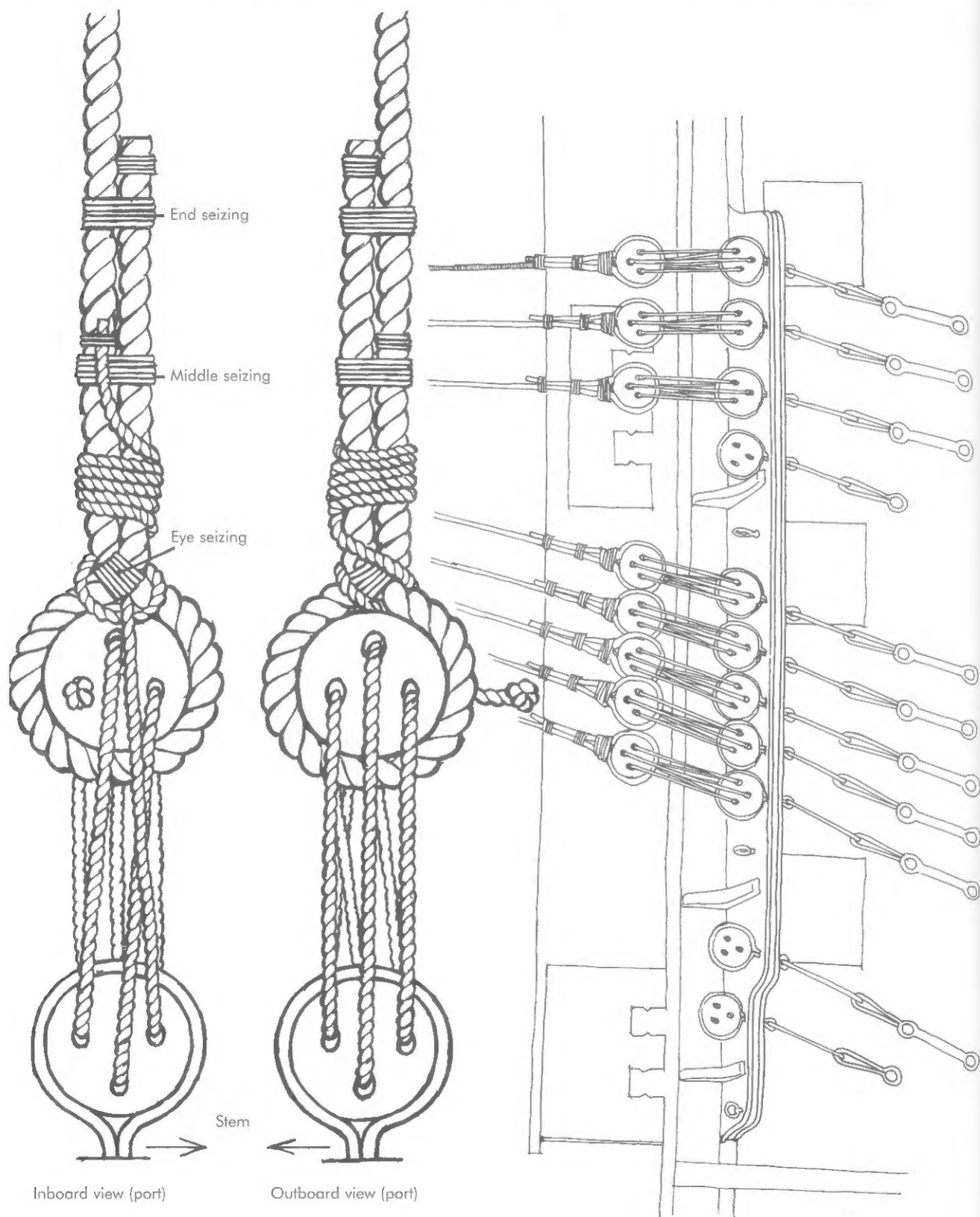
During her thirty years of service in the Royal Navy she took part in a number of actions. In 1794, for instance, she was with the *Arethusa* and two other frigates in Warren's action against Desgarceaux's squadron, which ended in the capture of three French frigates. Under the command of Sir Richard Strachan, *Melampus*, along with four other frigates, chased a French convoy into Carteret Bay where every ship but one was destroyed by the ships' boats. Three years later, in 1798, under the command of Captain Moore, she was involved in the interception of the Brest fleet off Ireland and captured the *Bellone*, a 44-gun frigate. Two days later she took another frigate, the *Resolue* 36. She was later, in 1807, to experience the fall-out of the *Leopard-Chesapeake* action when two-hundred of her water-casks were burnt by the enraged inhabitants of Norfolk, Virginia. In 1811 she captured the slaver *Fortune* and brought her back to Plymouth, and, finally, in 1815, she was sold off to the Dutch navy. Despite being thirty years old, she continued to serve for another decade.

I hope this book will make the task of rigging easier for modelmakers at all levels. Certainly, researching and drawing out the illustrations answered a lot of questions for me. There are other works which any modelmaker needs to refer to and which have been stalwart guides for me. Foremost are James Lee's *The Masting and Rigging of English Ships of War 1625-1860*, and C N Longridge's *The Anatomy of Nelson's Ships*. Any modeller's book shelf also requires *The Ashley Book of Knots*.

Finally, the journal *Seaways* and *The Nautical Research Journal*, from Nautical Research Guild in the US, have been useful guides for me.

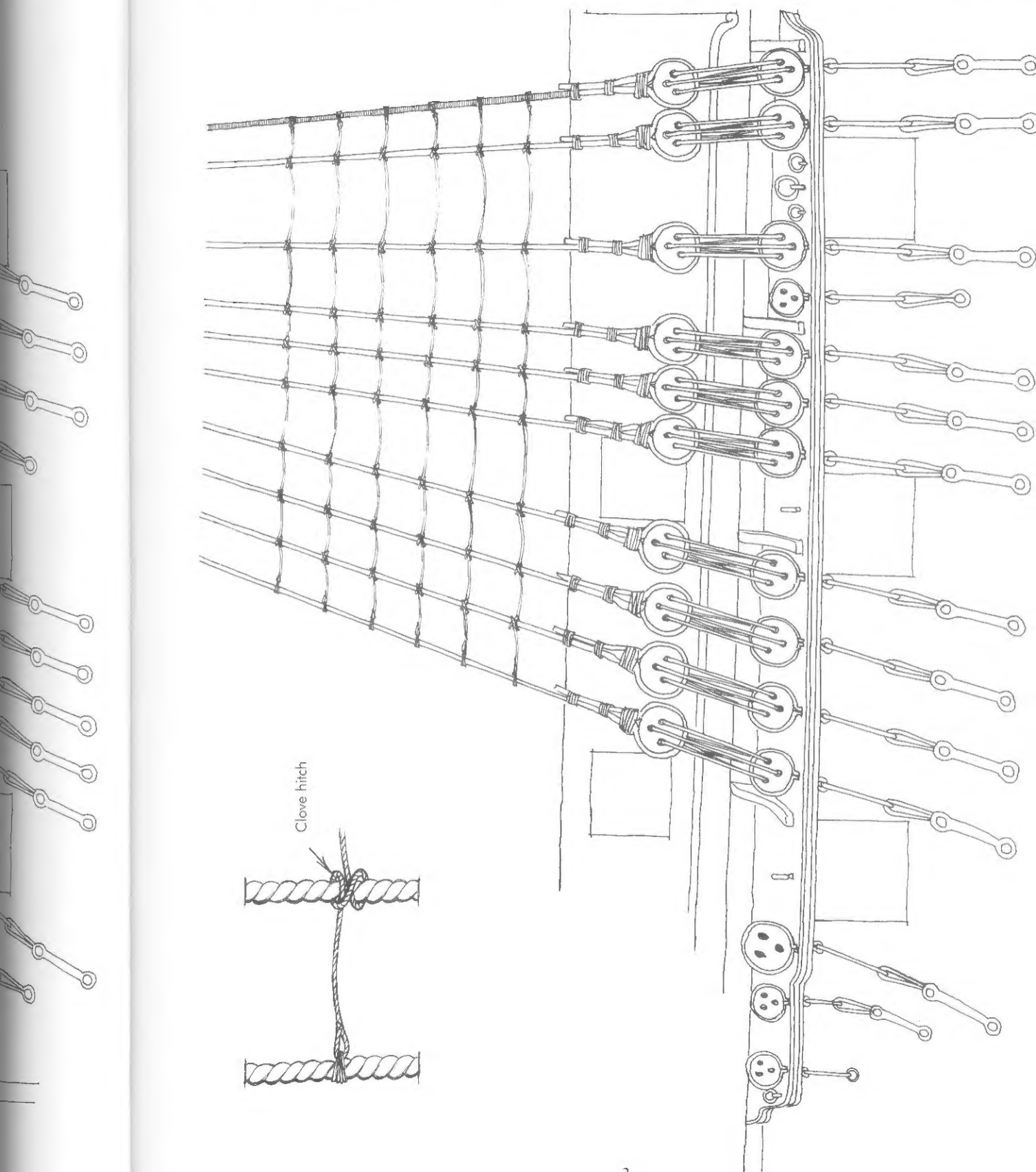
LENNARTH PETERSSON  
Habo, Sweden, 2000

# Fore Channels & Dead-Eyes

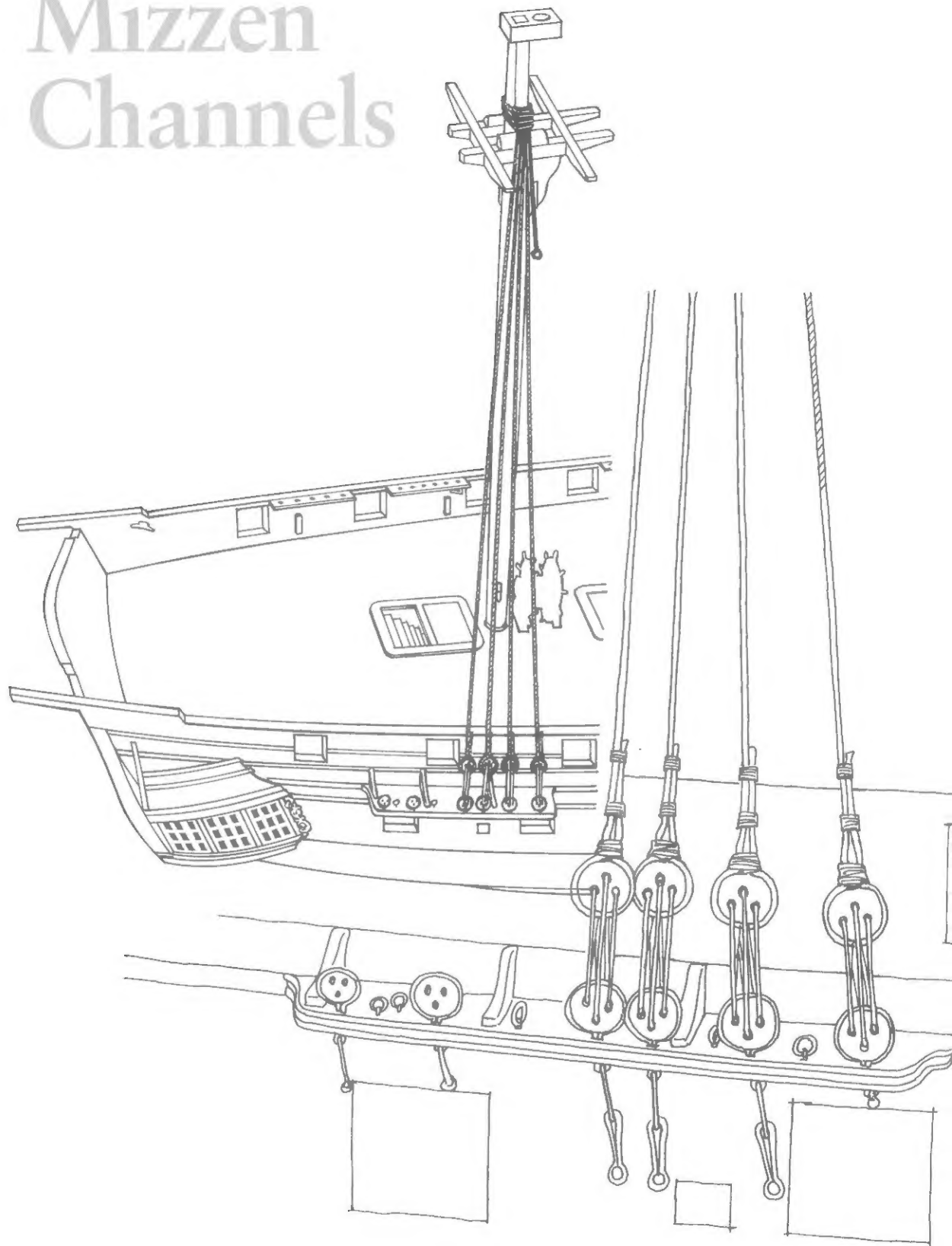




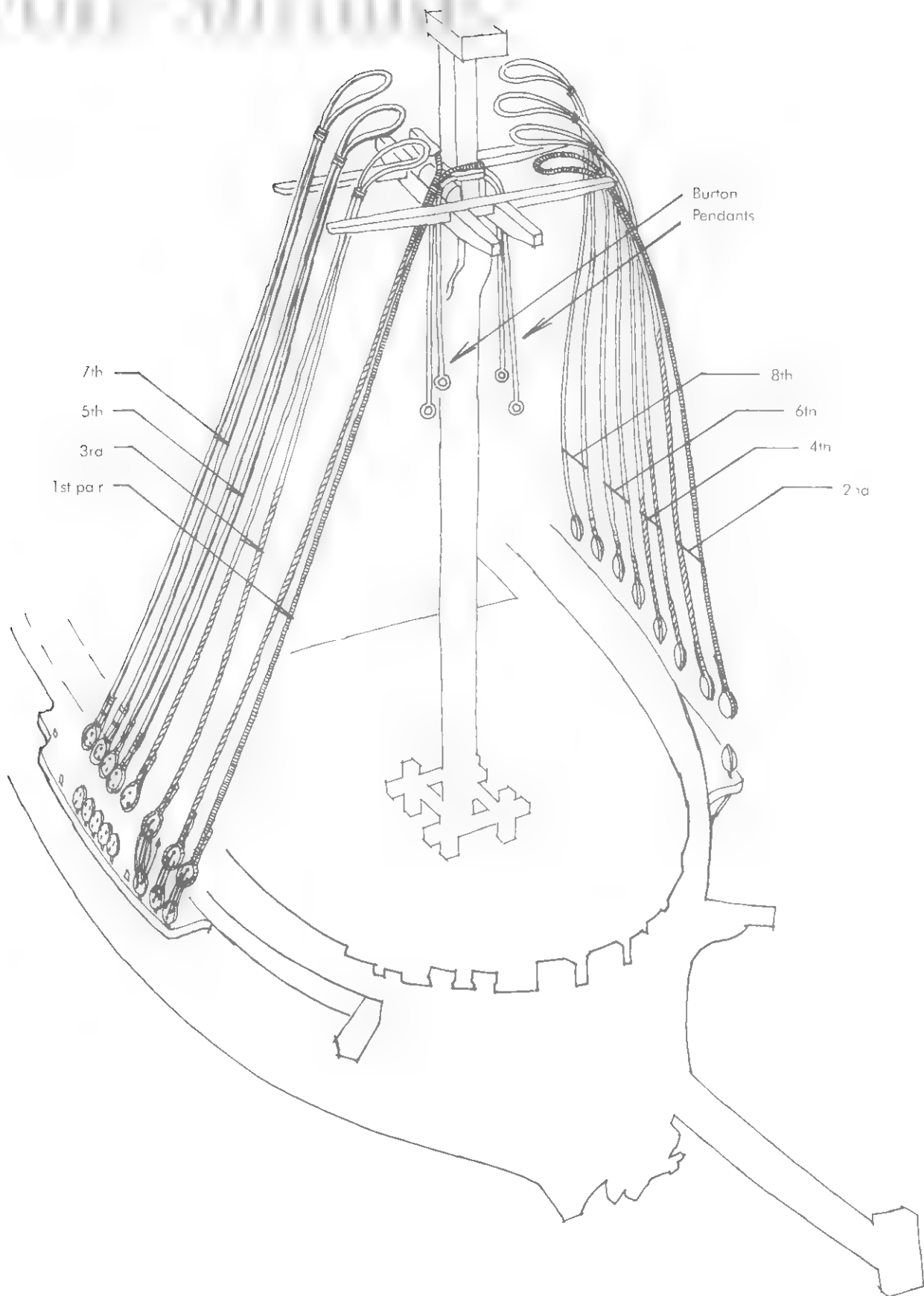
# Main Channels & Ratlines



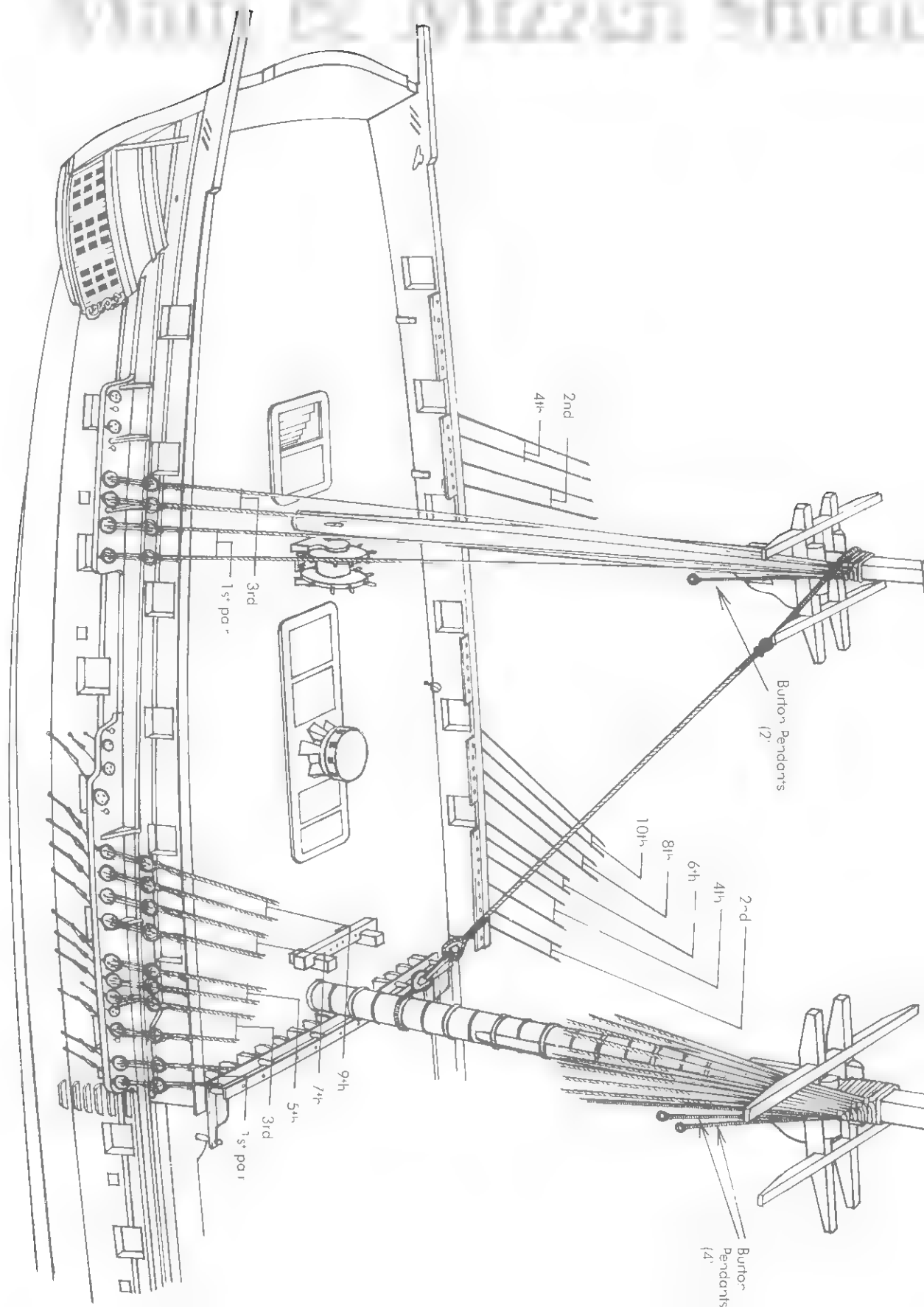
# Mizzen Channels



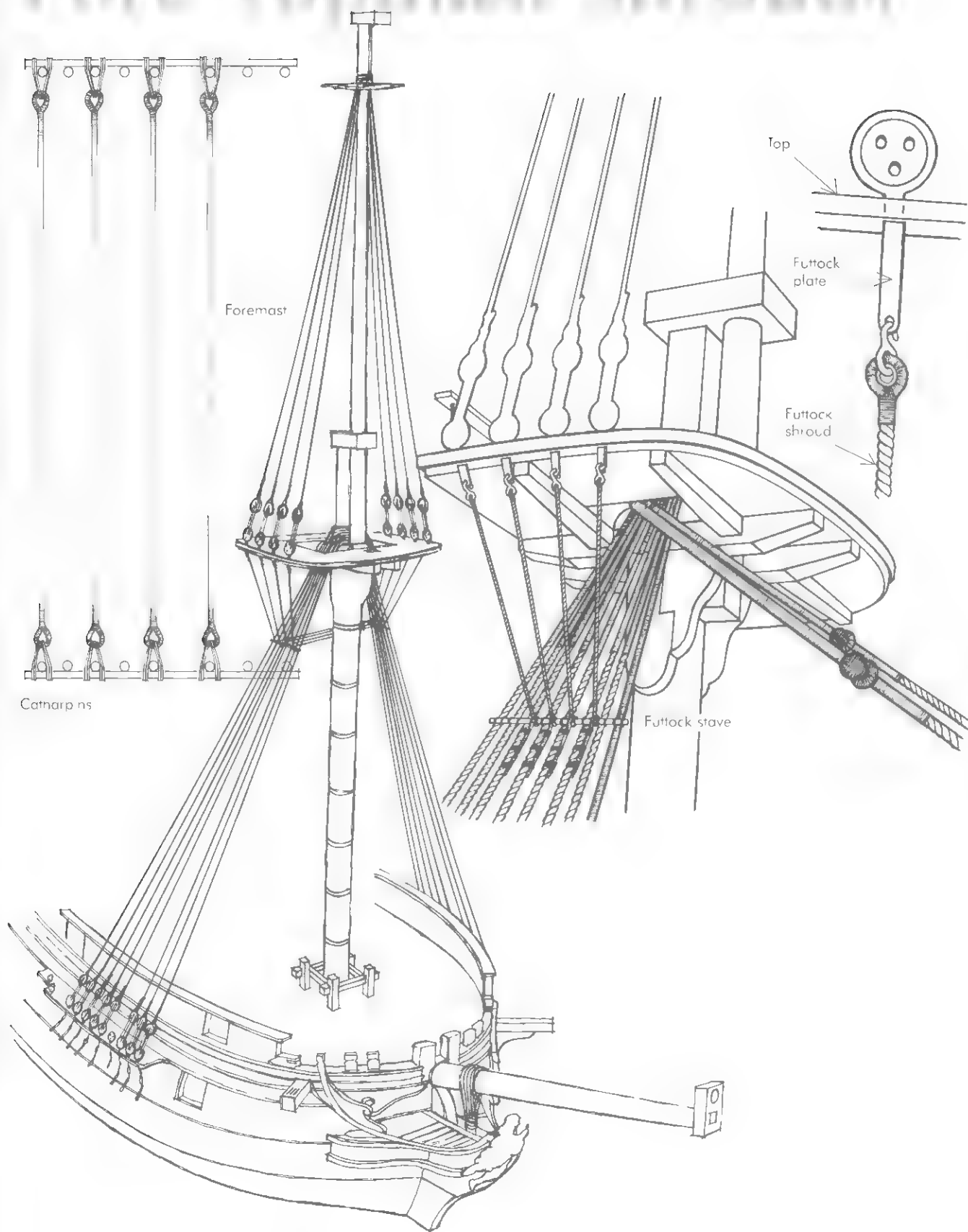
# Pan-Strands



# Waist & Mizzen Shrou

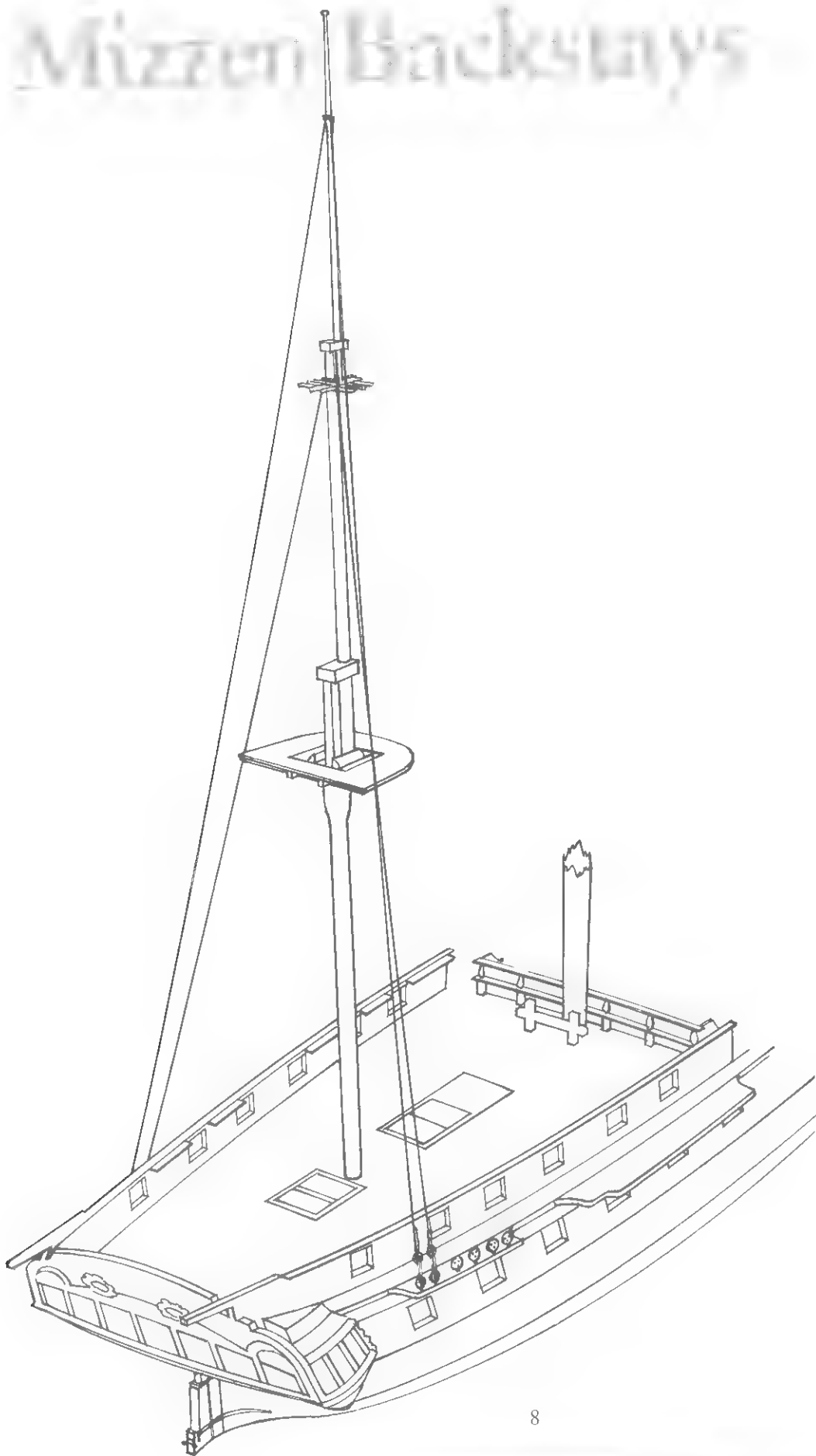


# Fore Topmast Shrouds

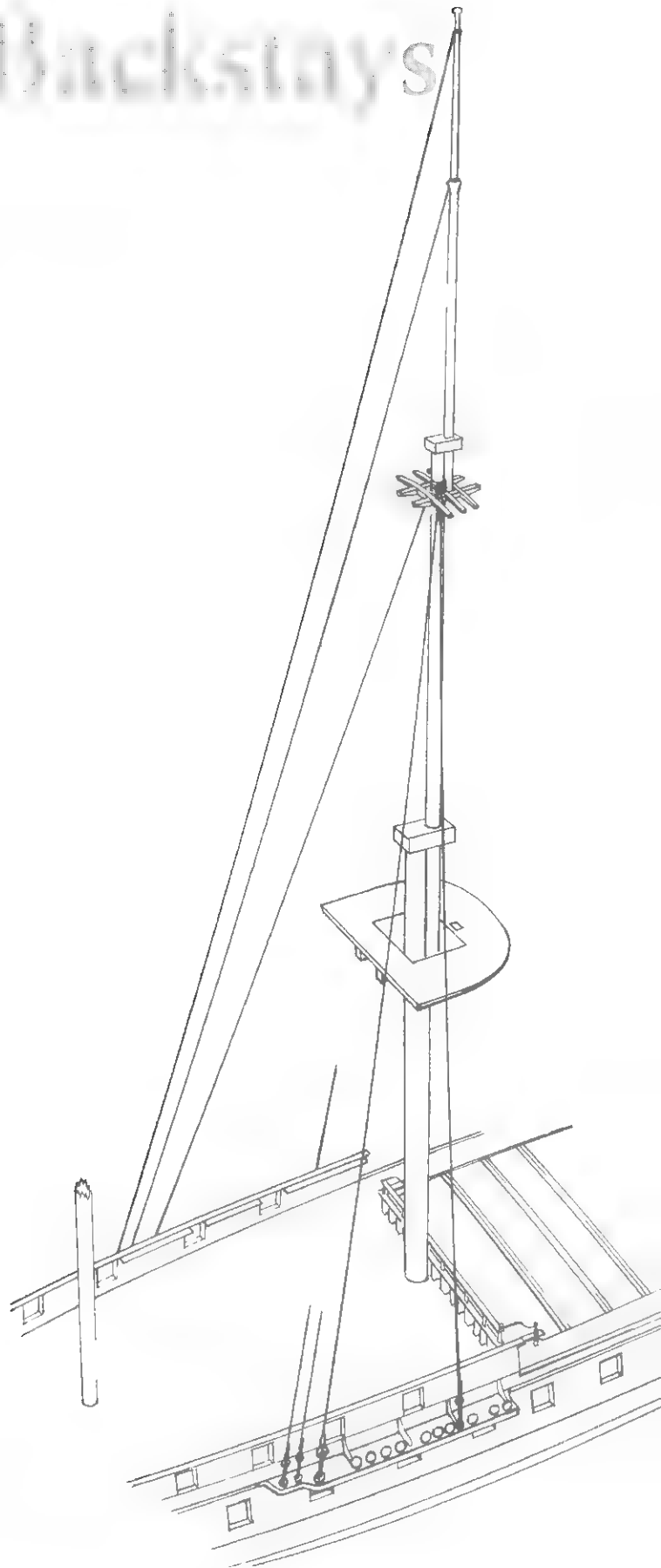




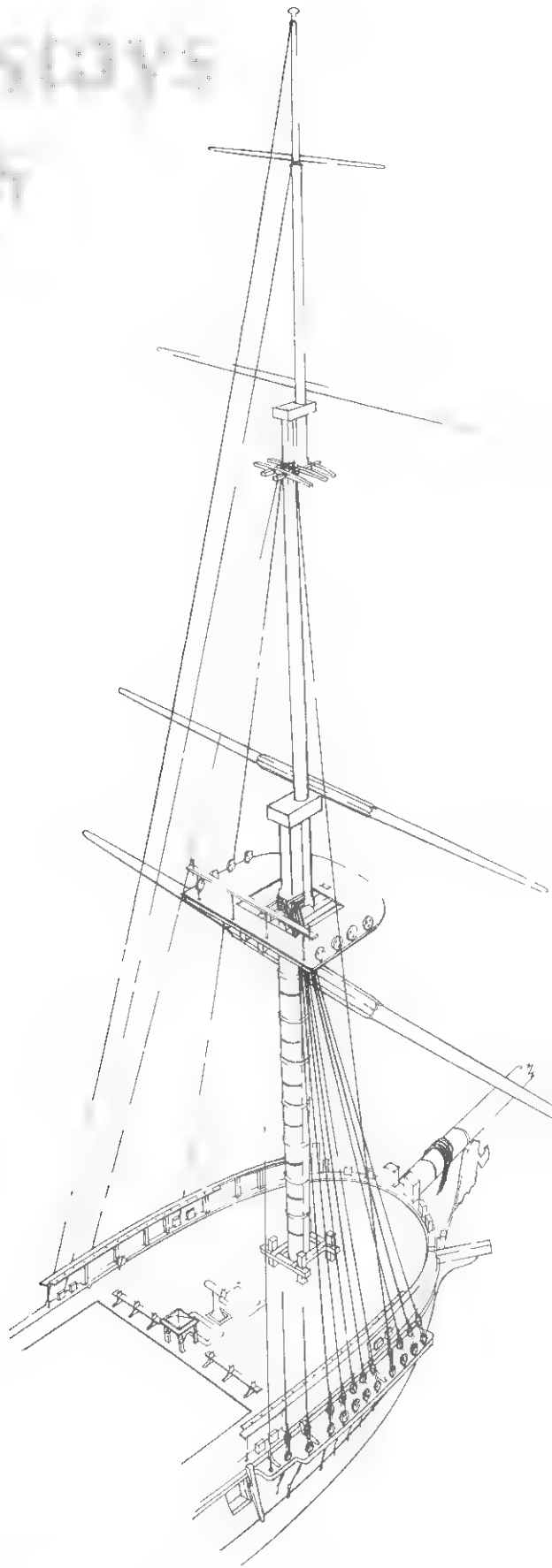
# Mizzen Backstays



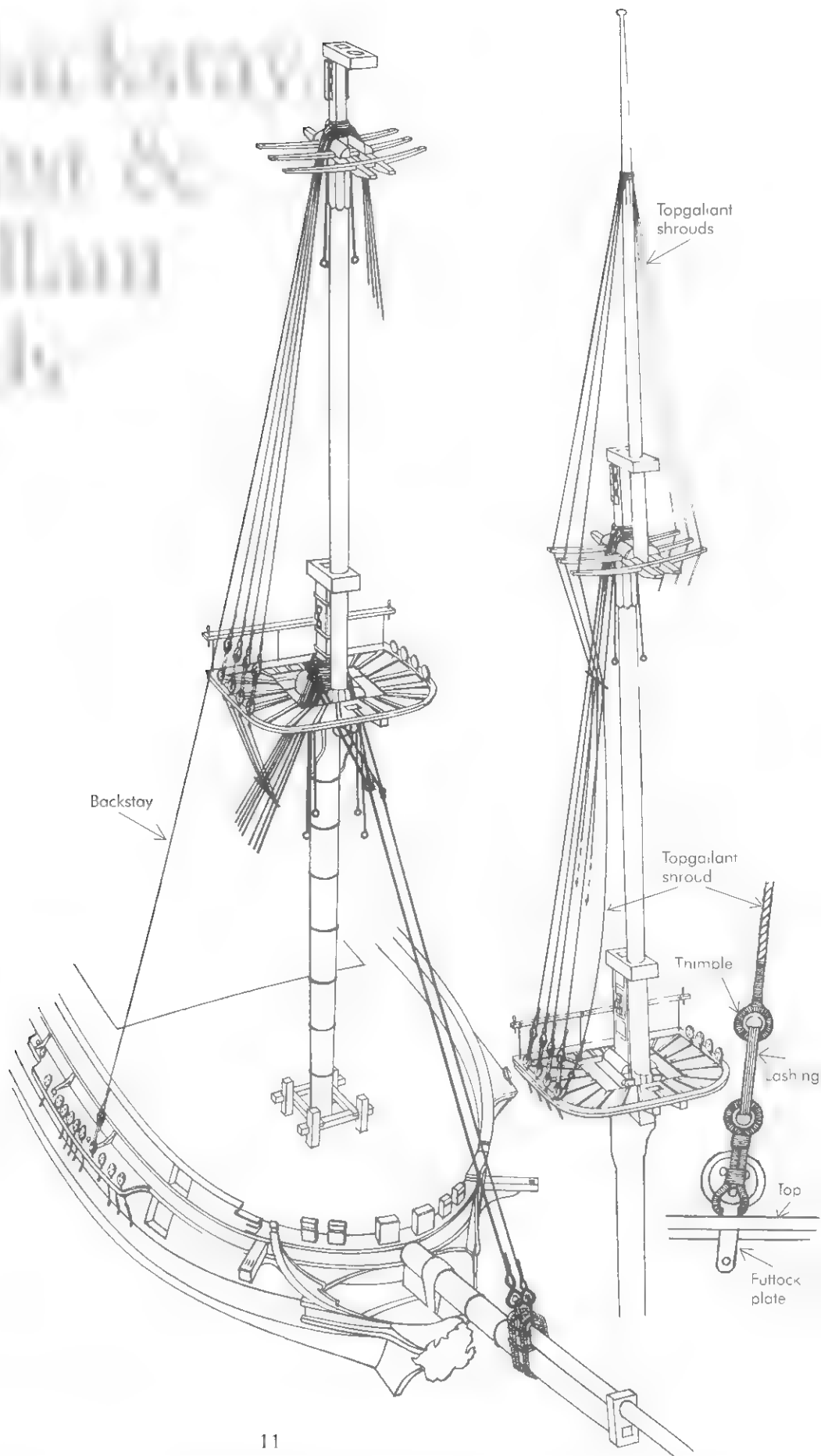
# Main Backstays



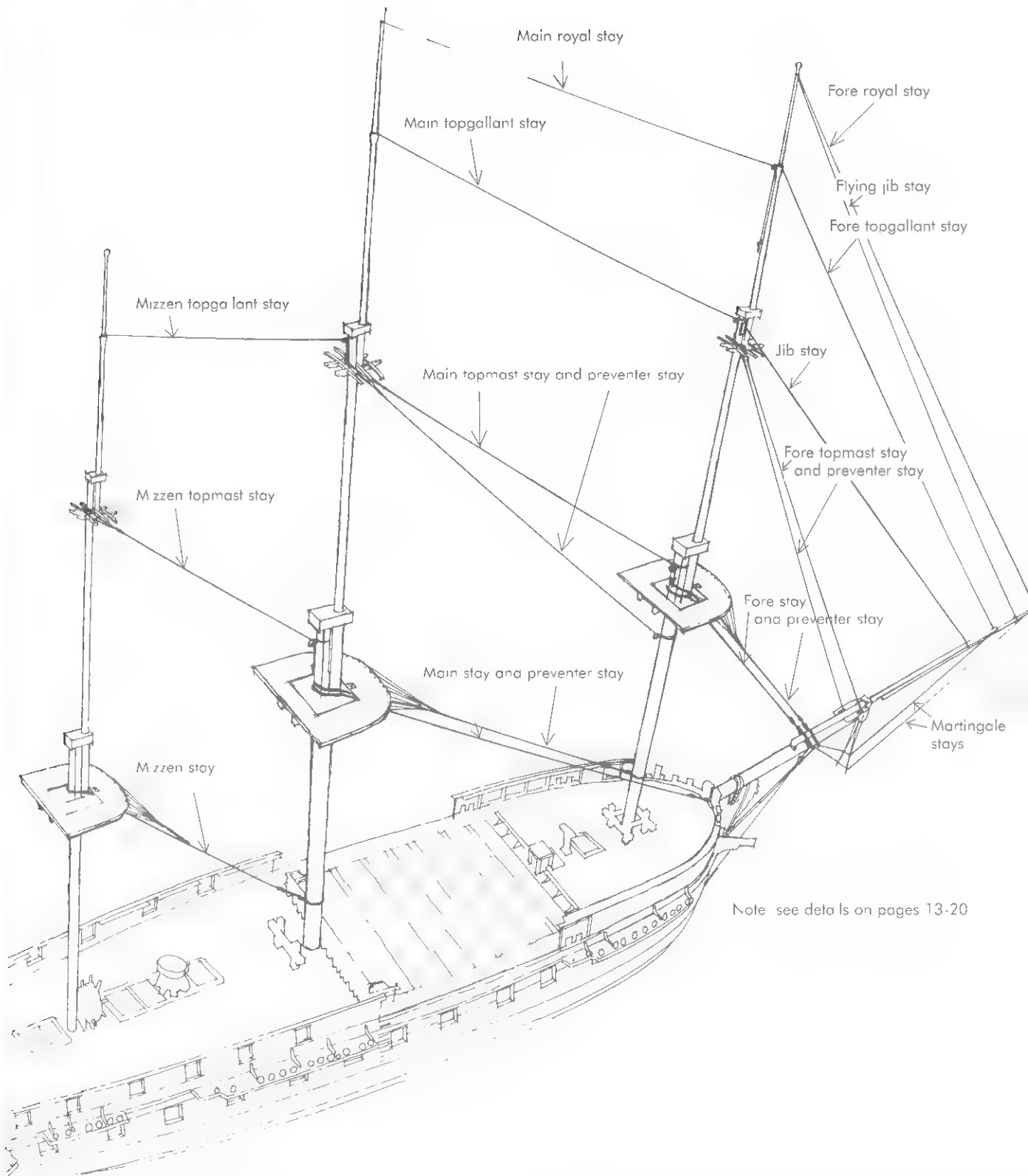
# Fore Backstays & Shrouds



# Fore Maststay Topmast & Topgallant Shrouds

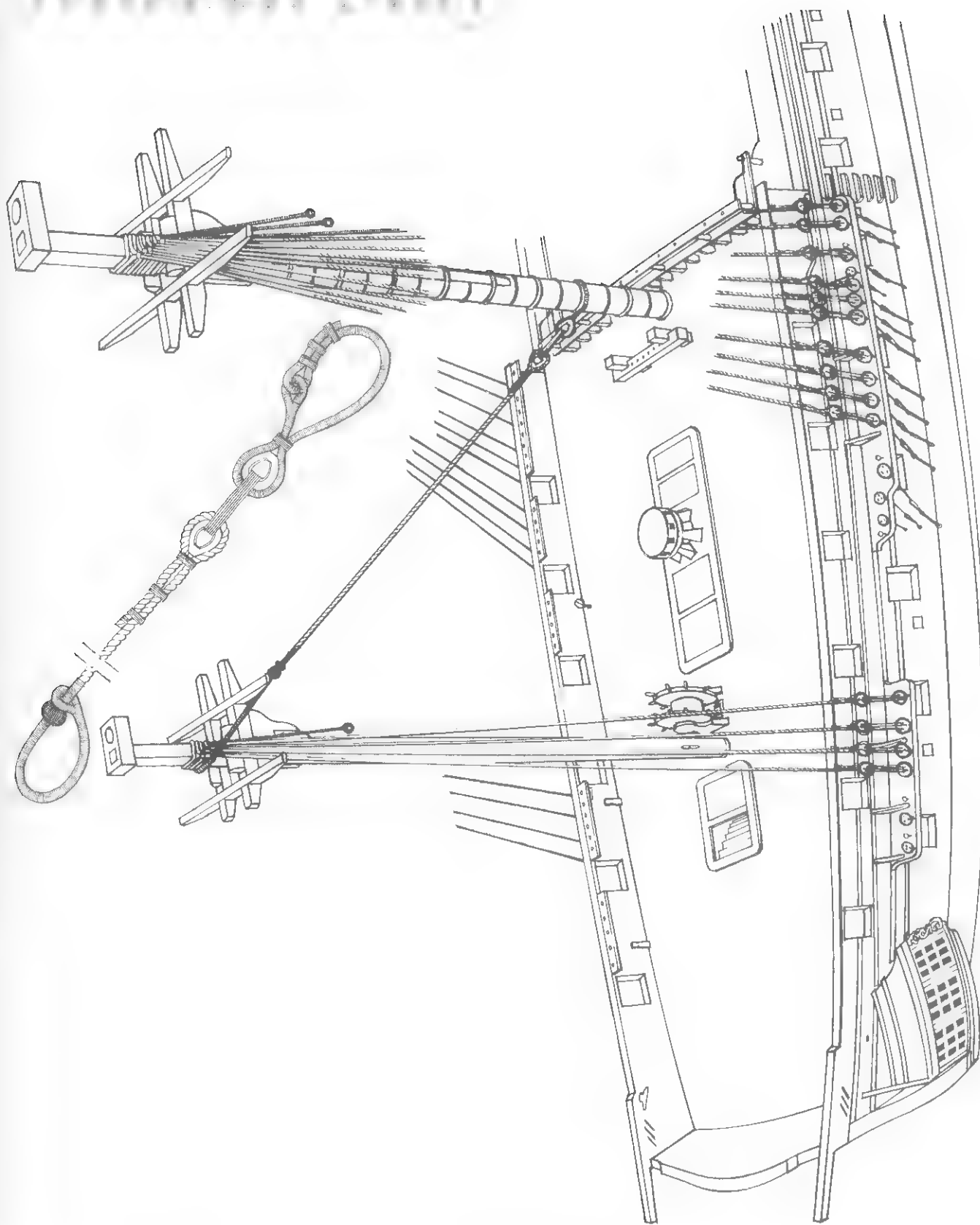


# Stays

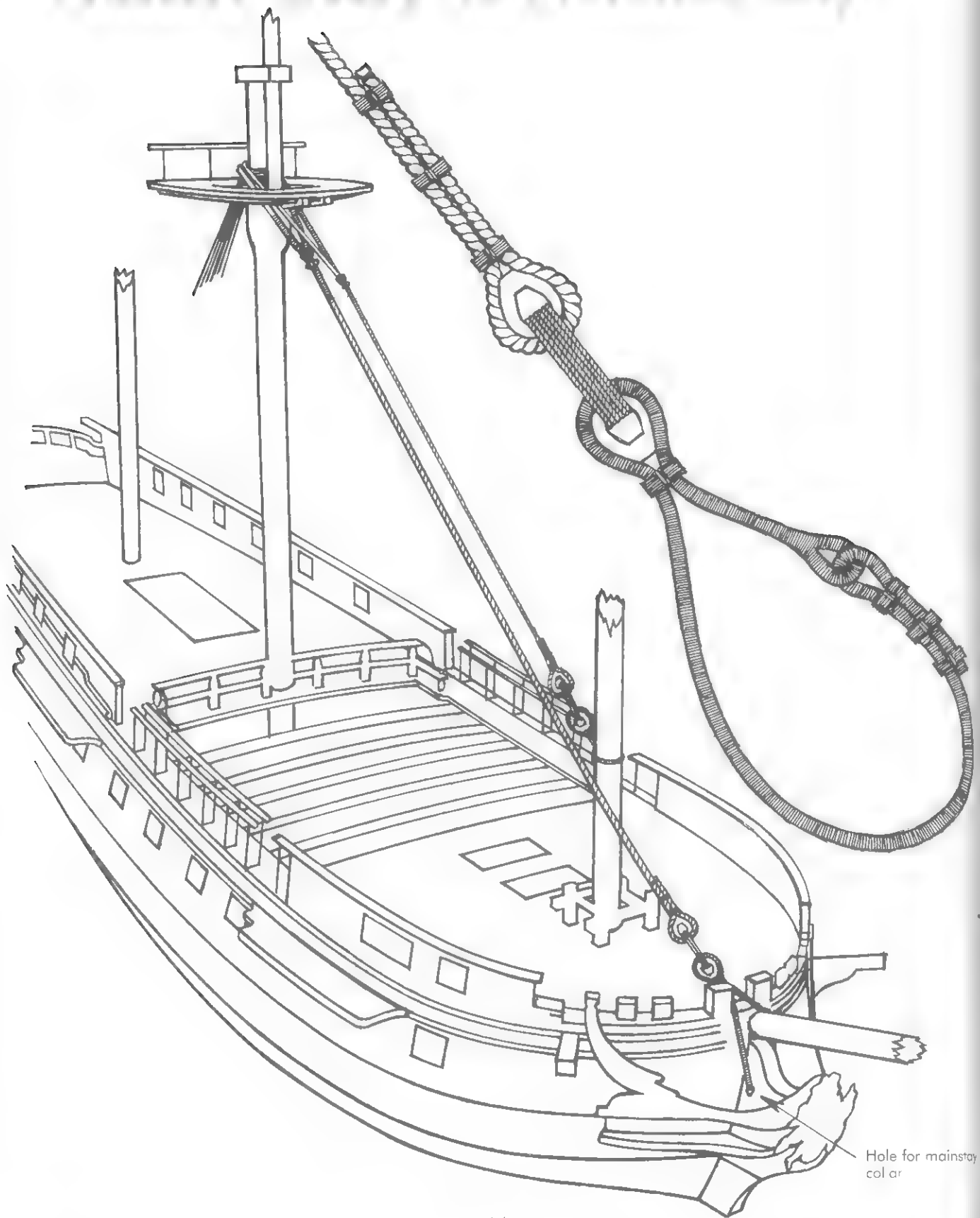




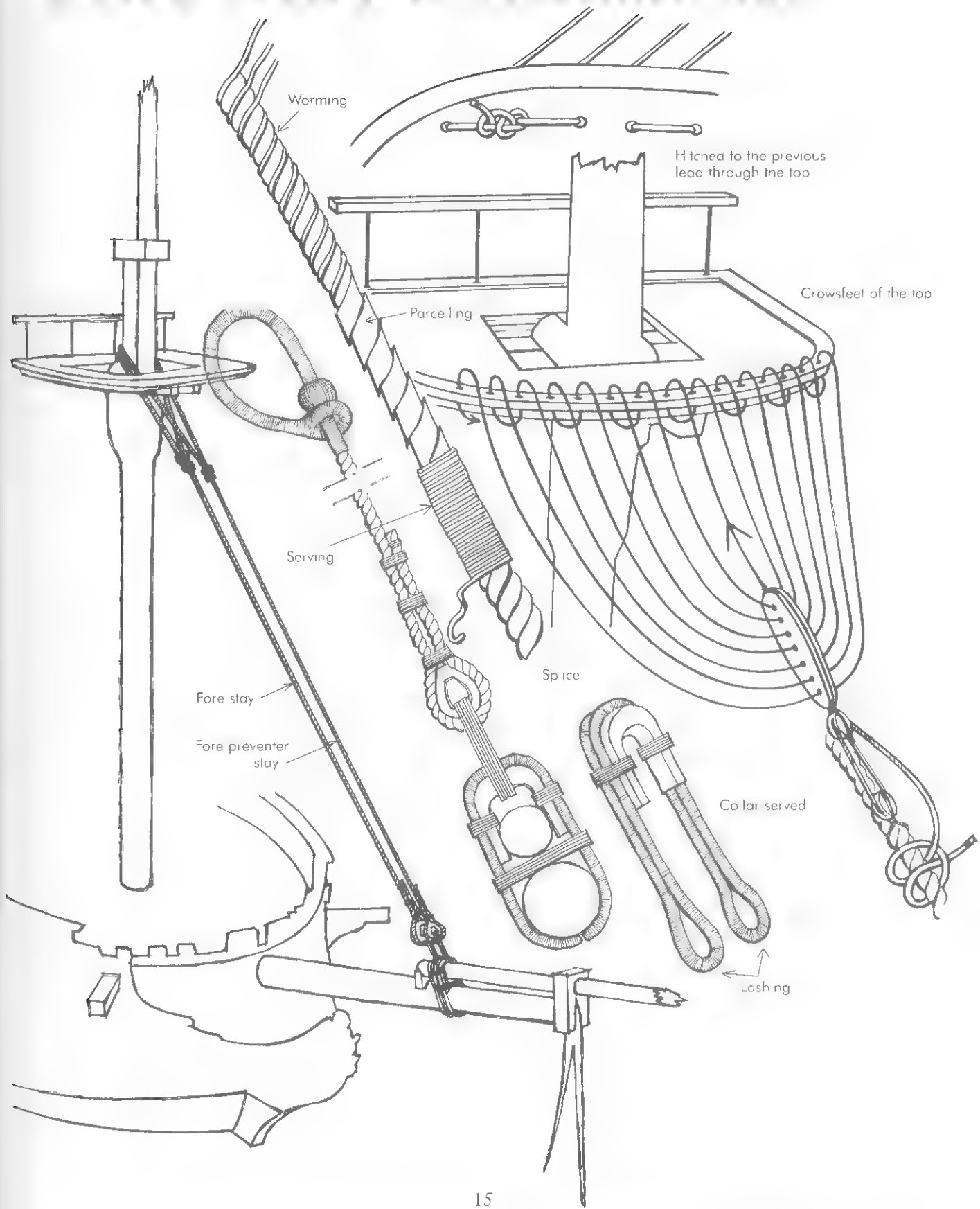
# Mooren Stay



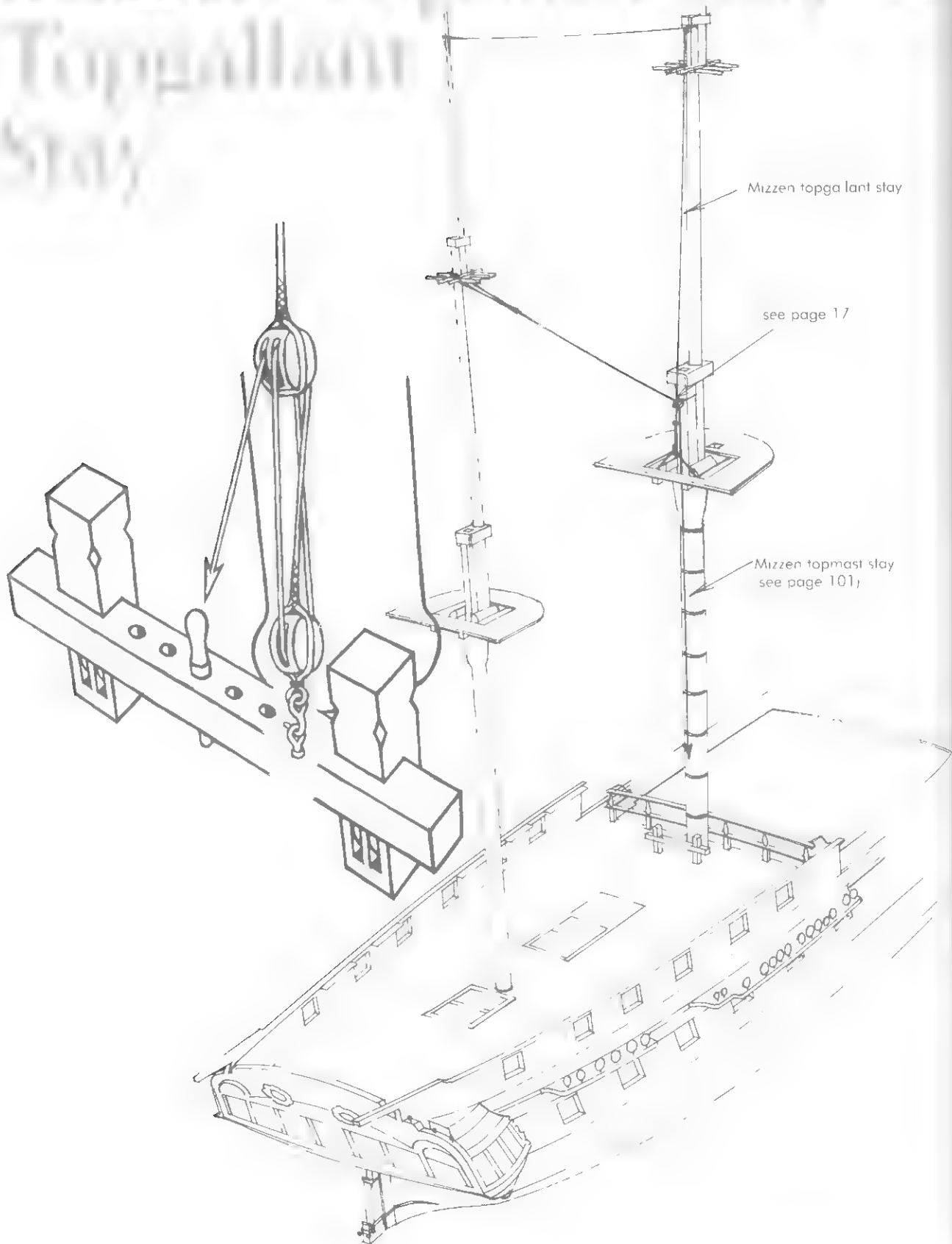
# Main Stay & Foremast Stay



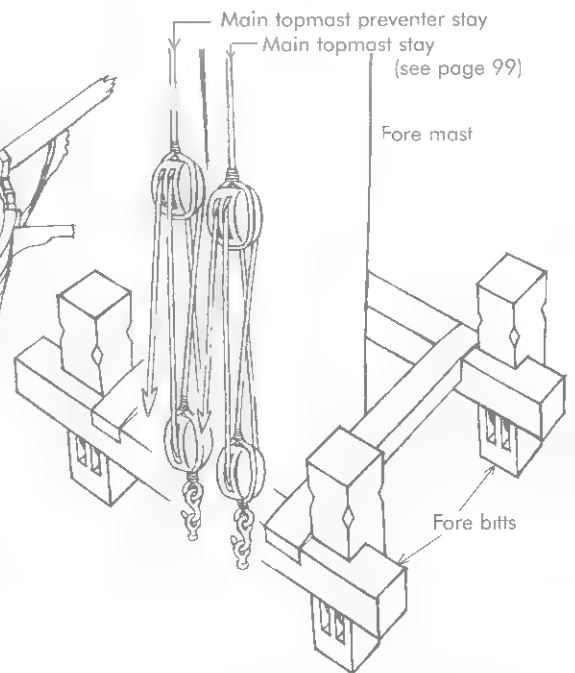
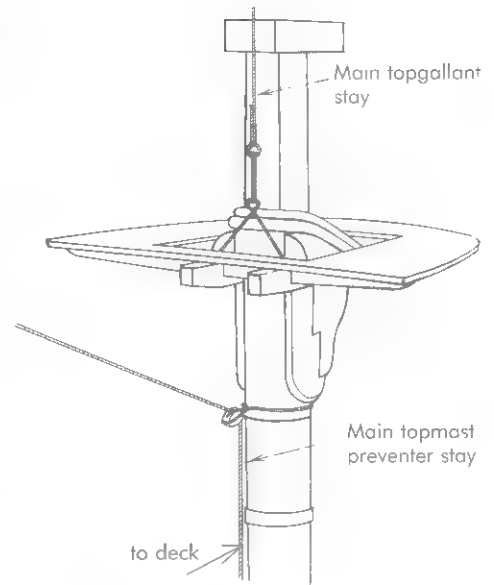
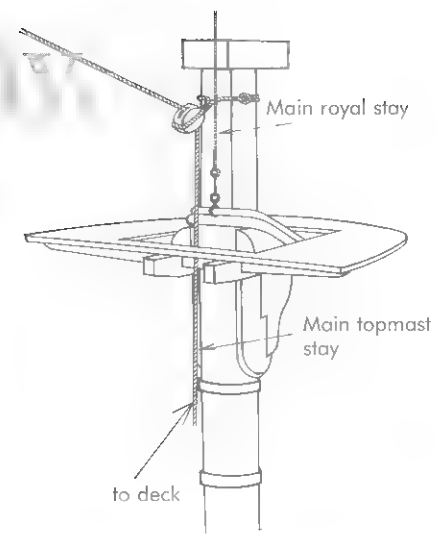
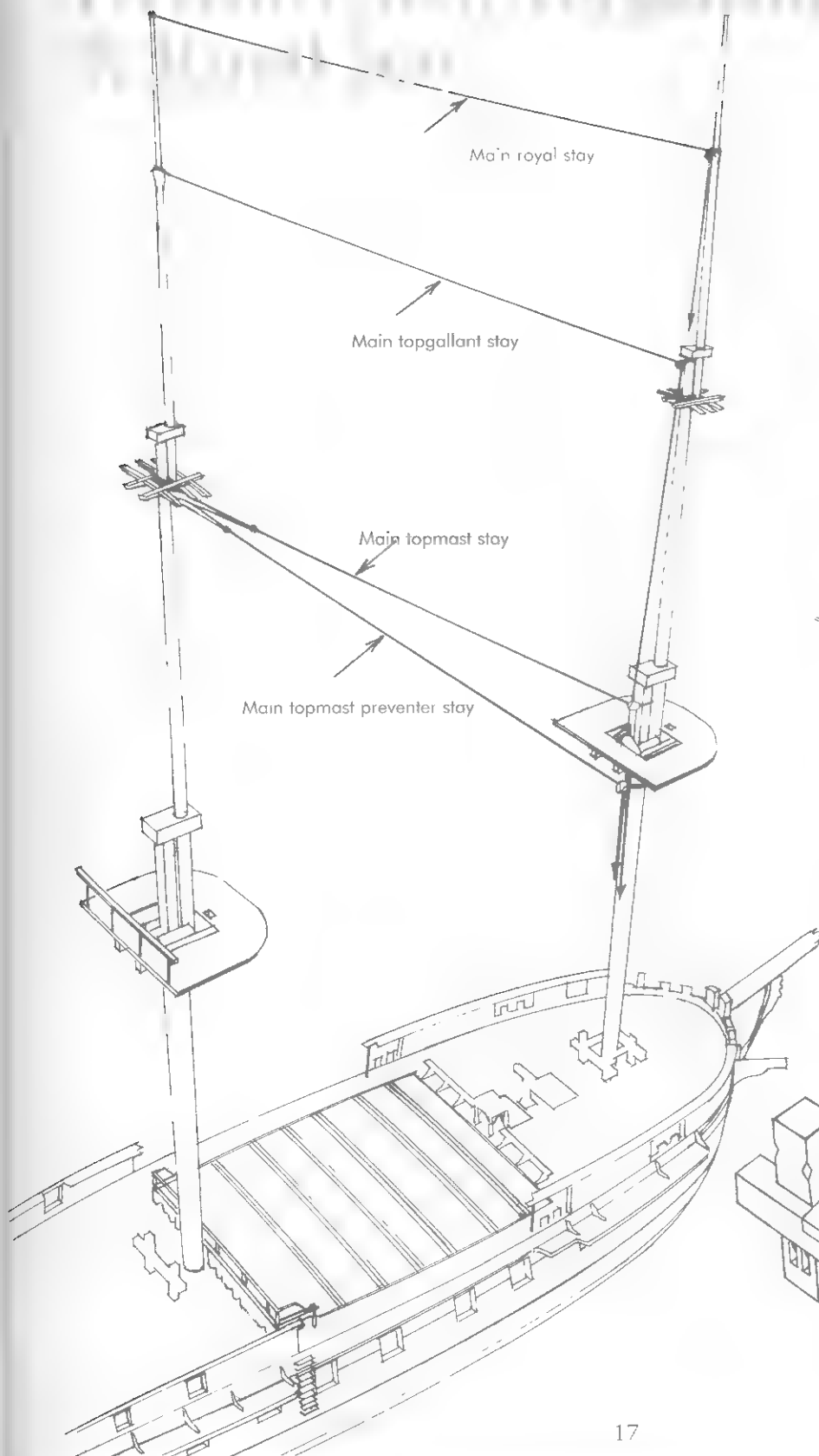
# Fore Stay & Topping



# Mizzen Topmast Stay & Topgallant Stay

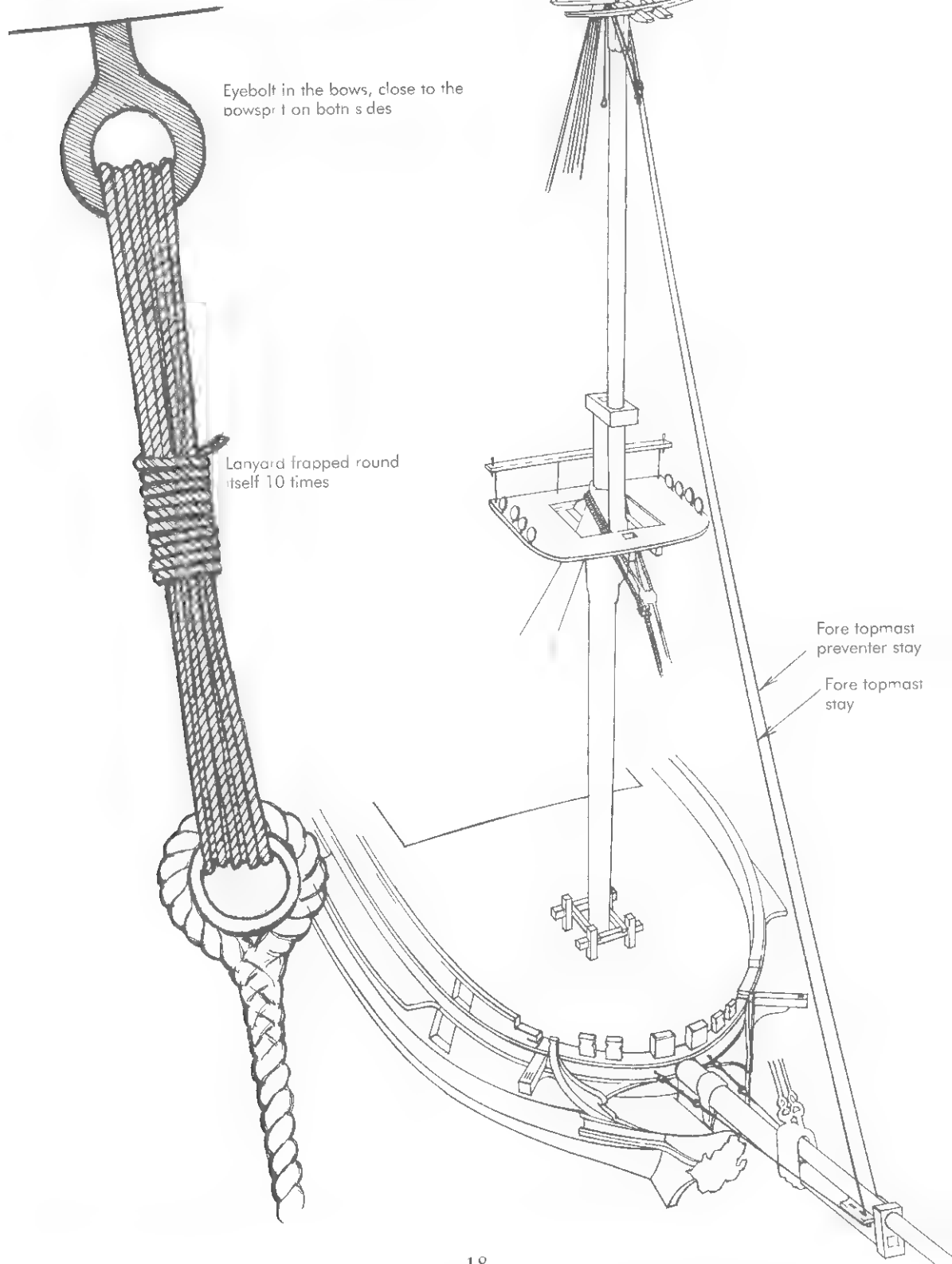


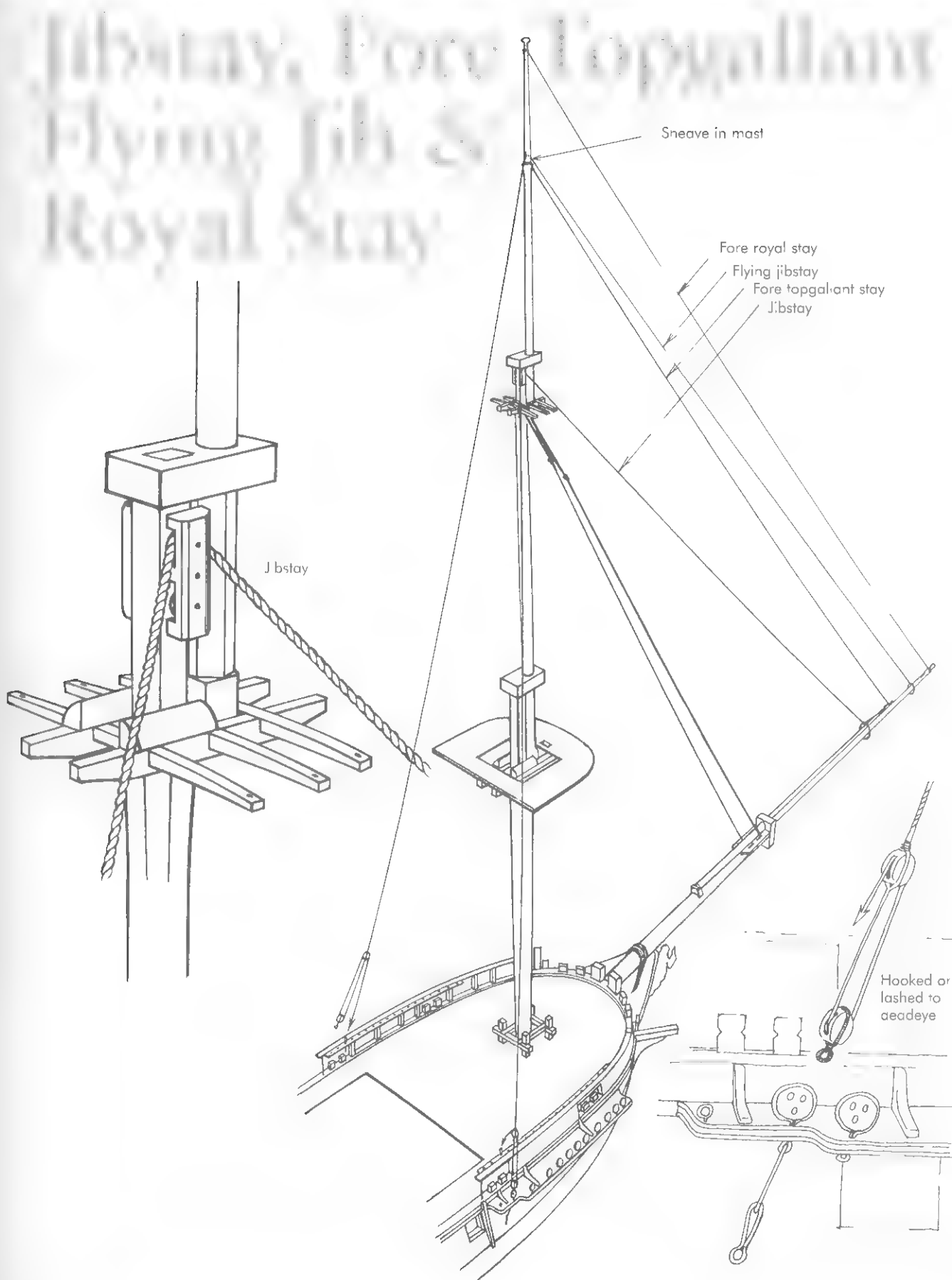
# Main Topmast Stay Preventer Stay, Topgallant & Royal Stay



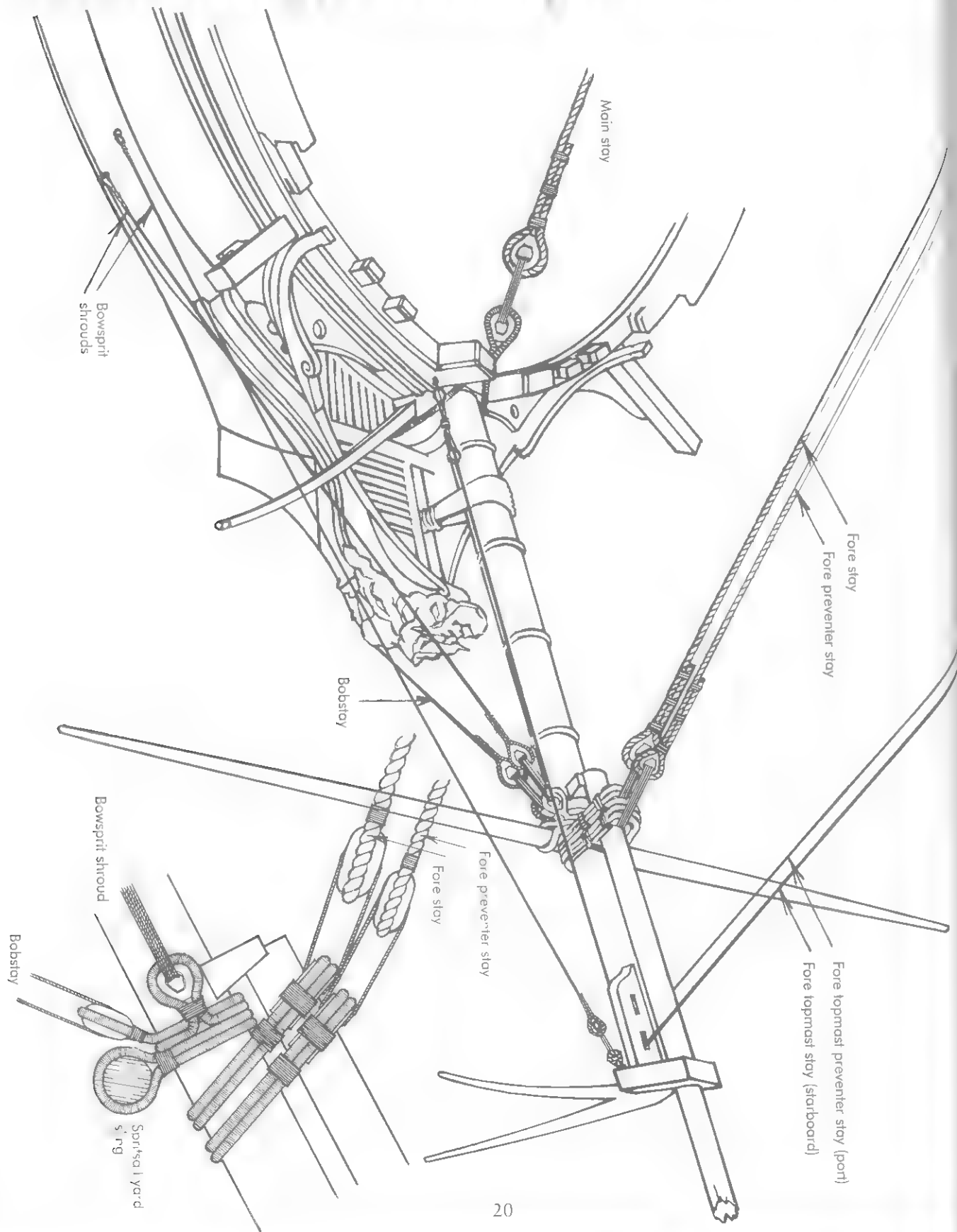


# Fore Topmast Preventer Stay

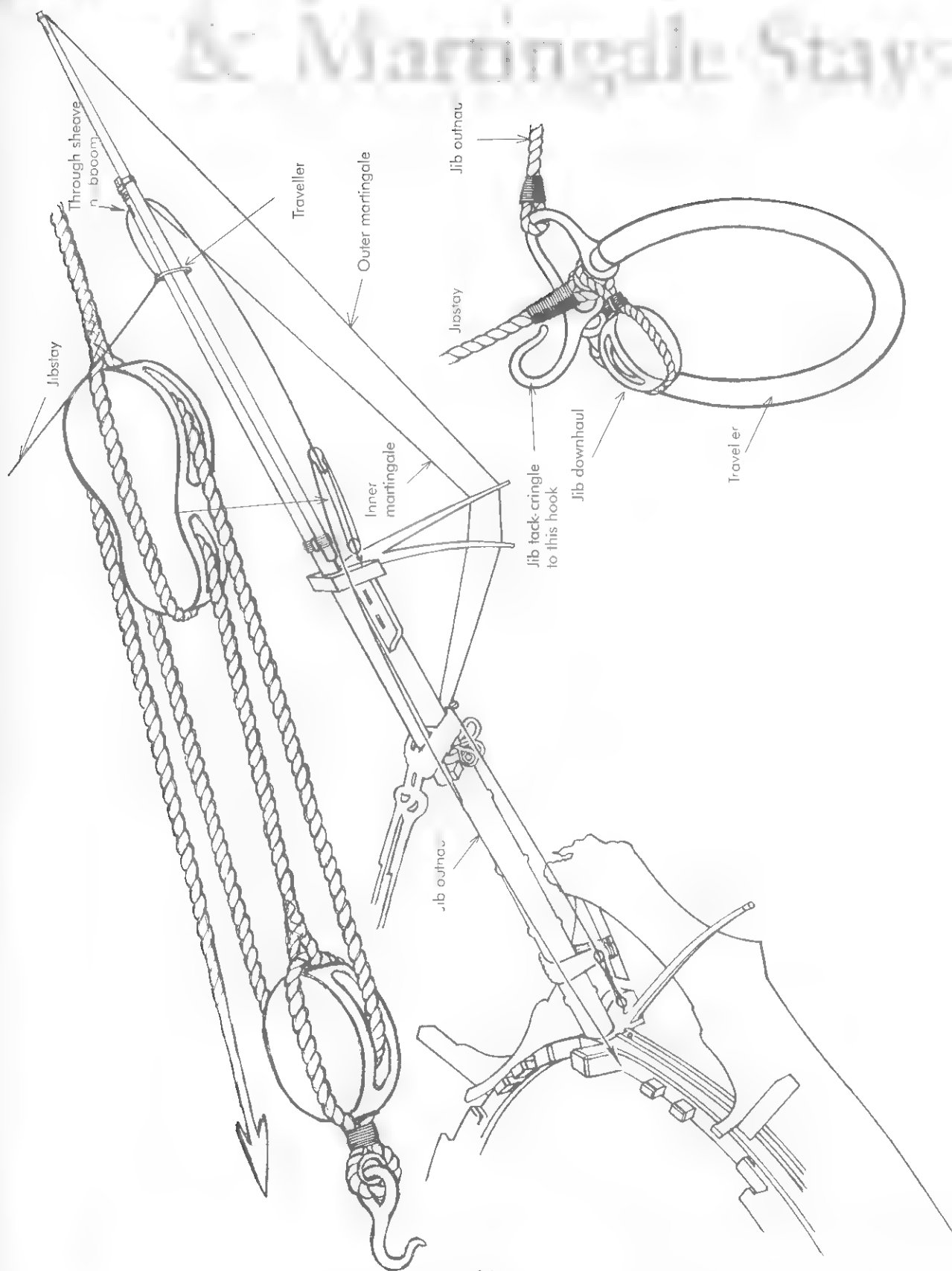




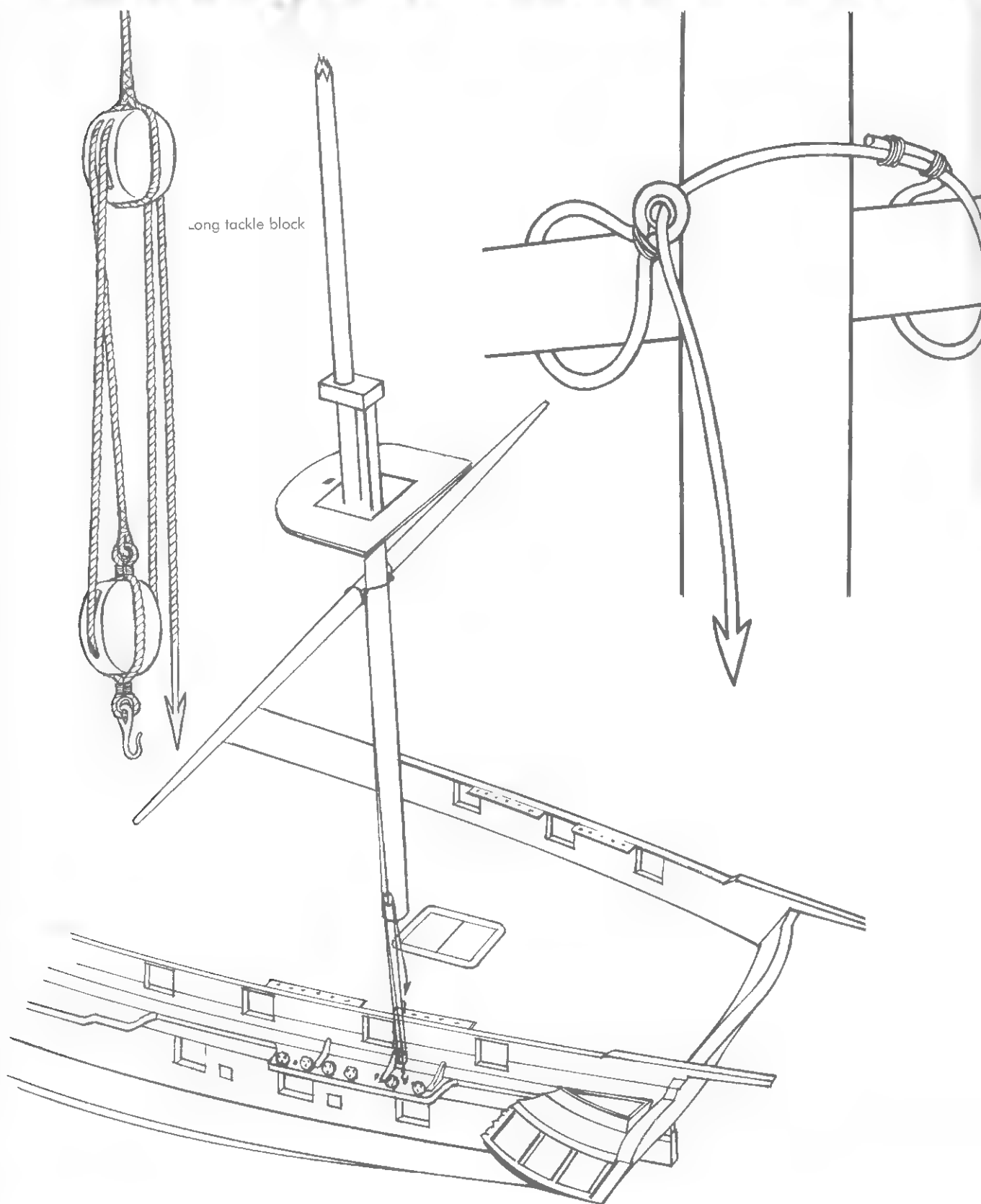
# Bobstay, Bowsprit & Shrouds



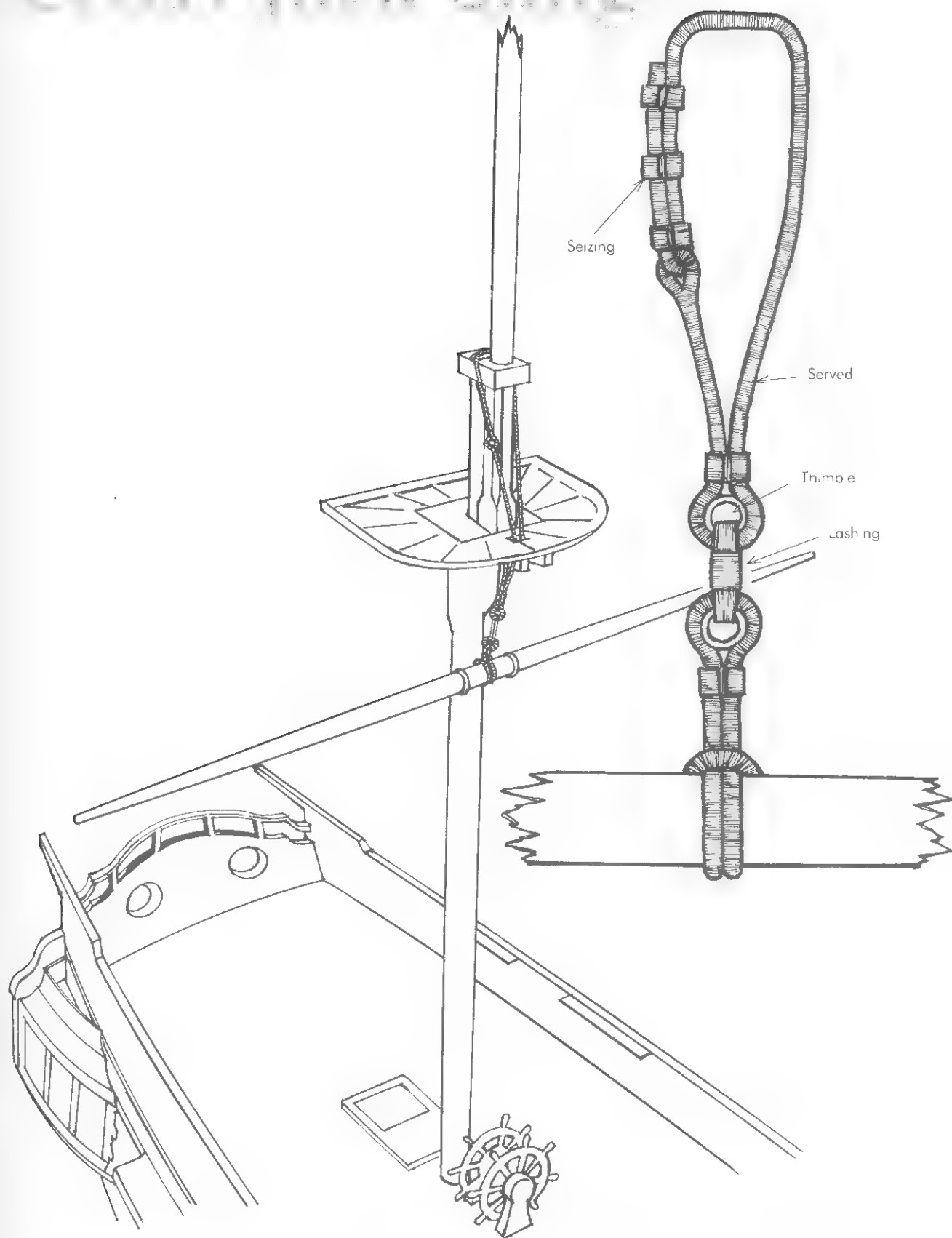
# Jibstay & Martingale Stays



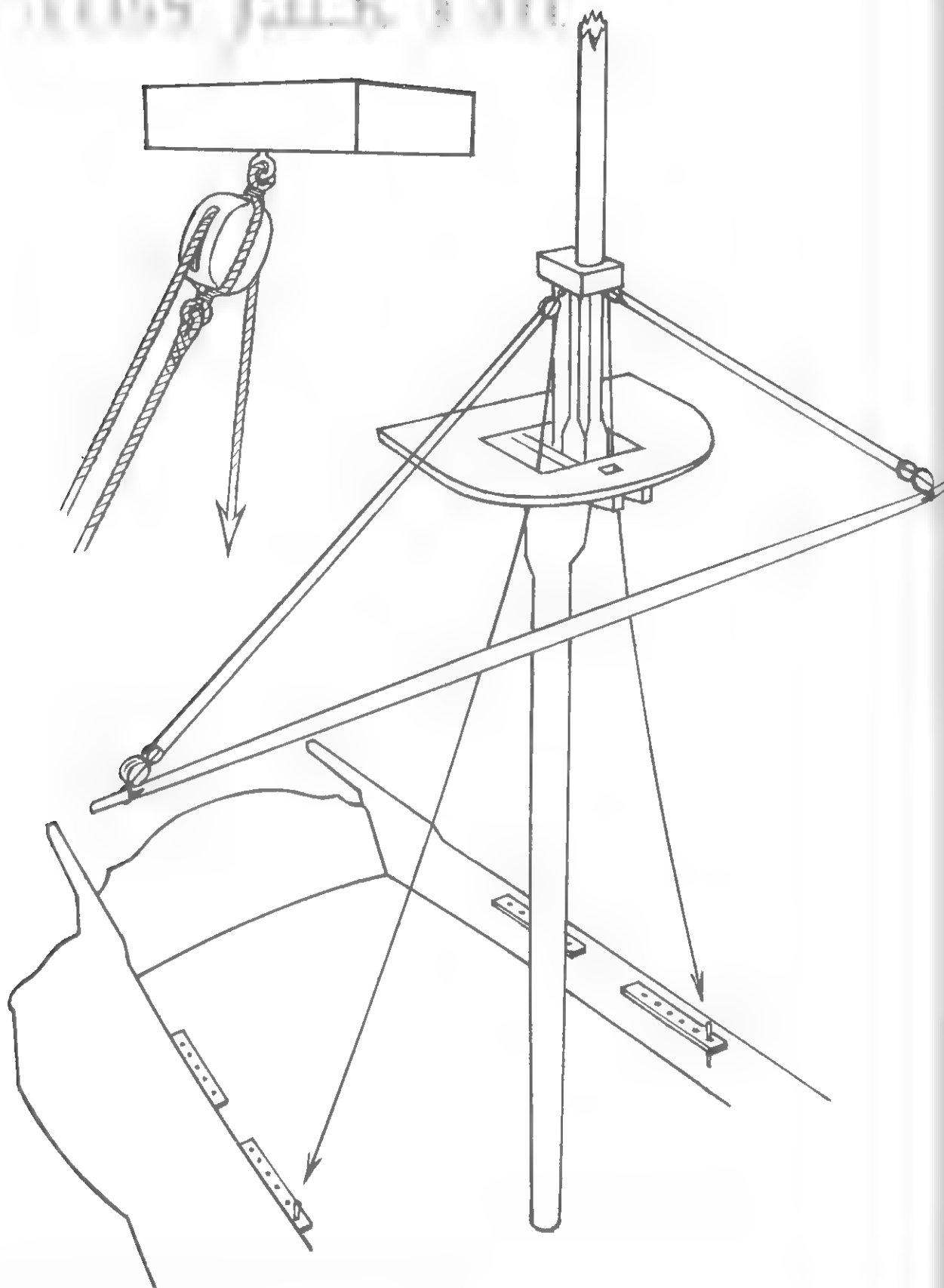
# Cross Jack Truss Pendant



# Course Work Sheet

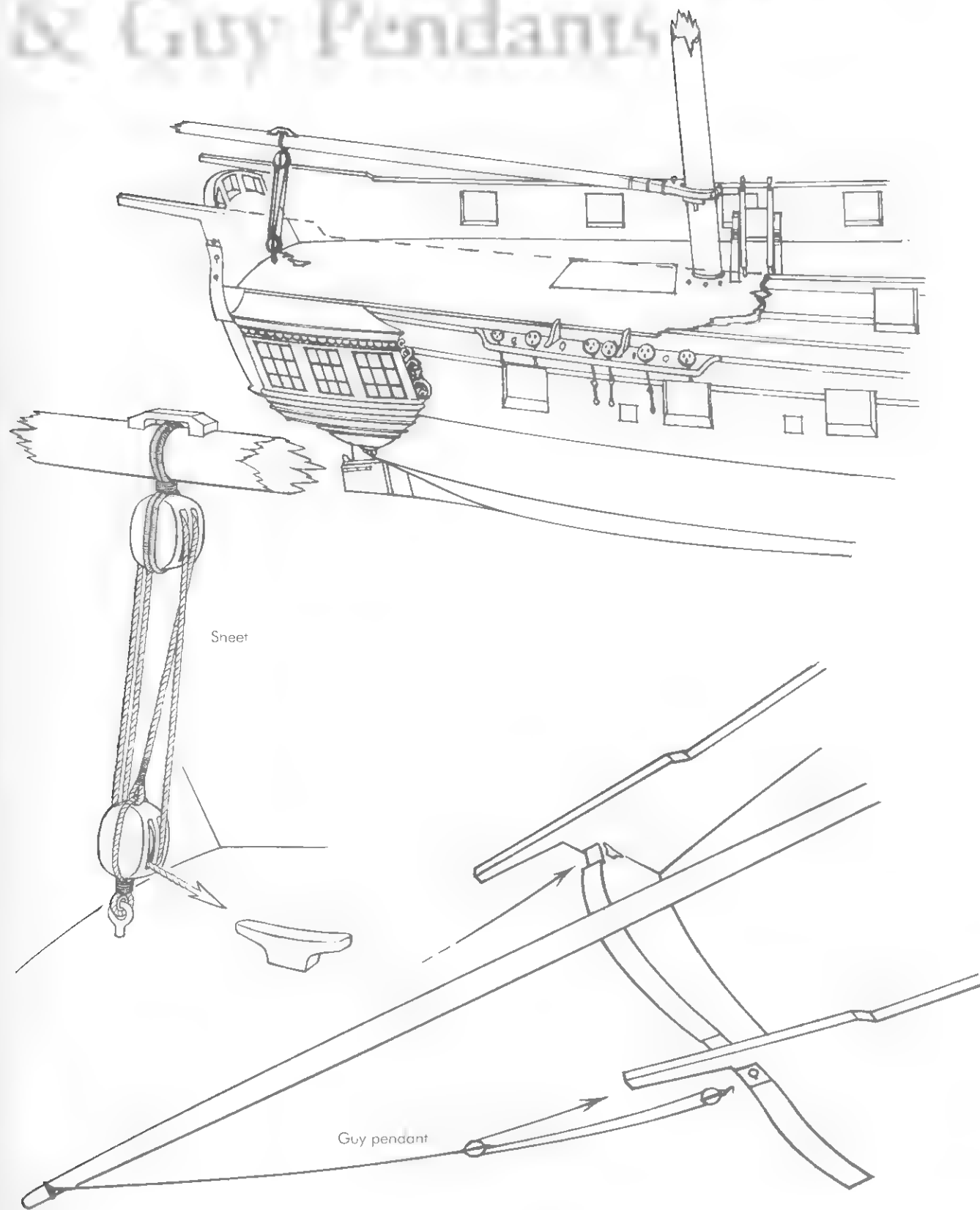


# Cross Jack 150

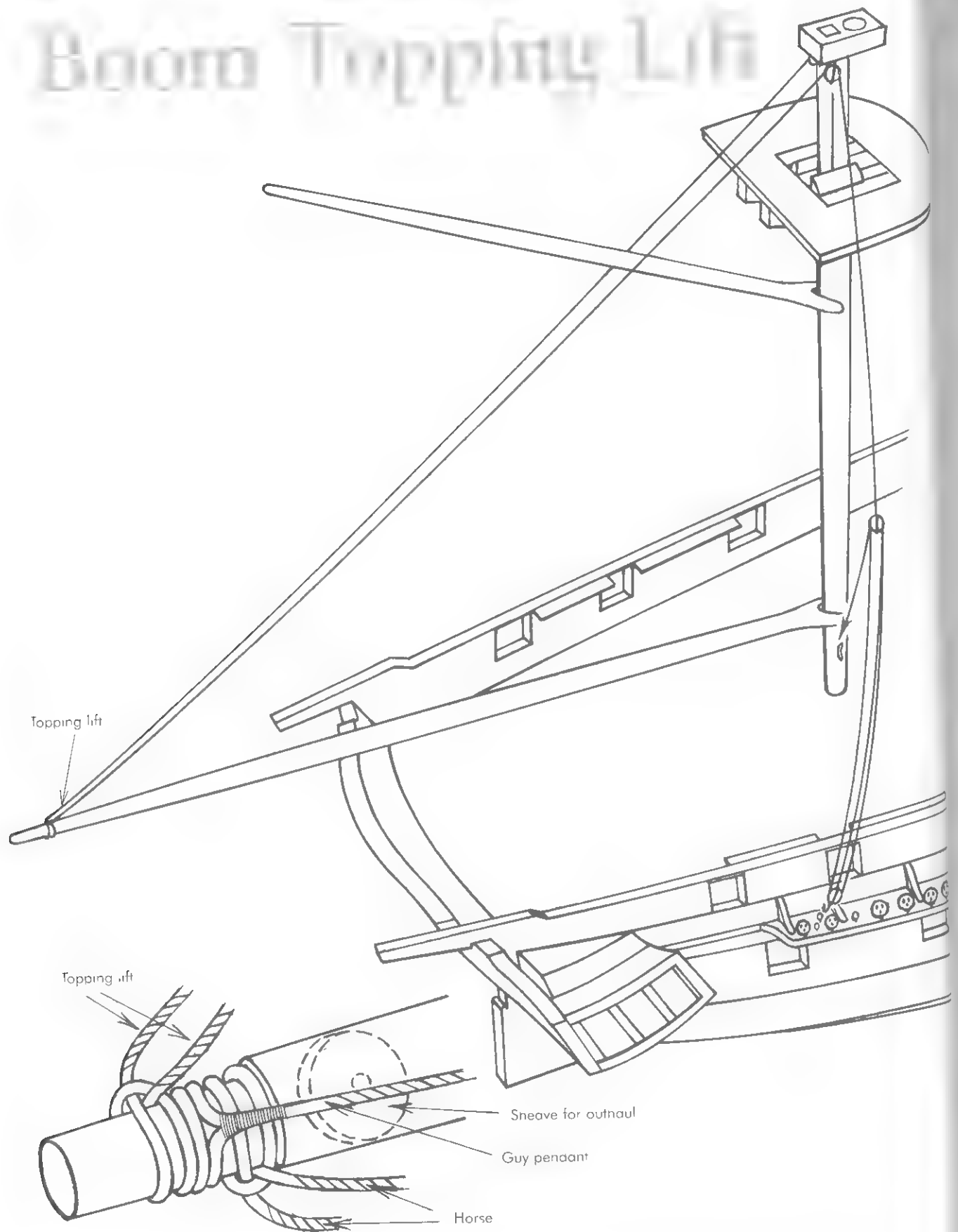


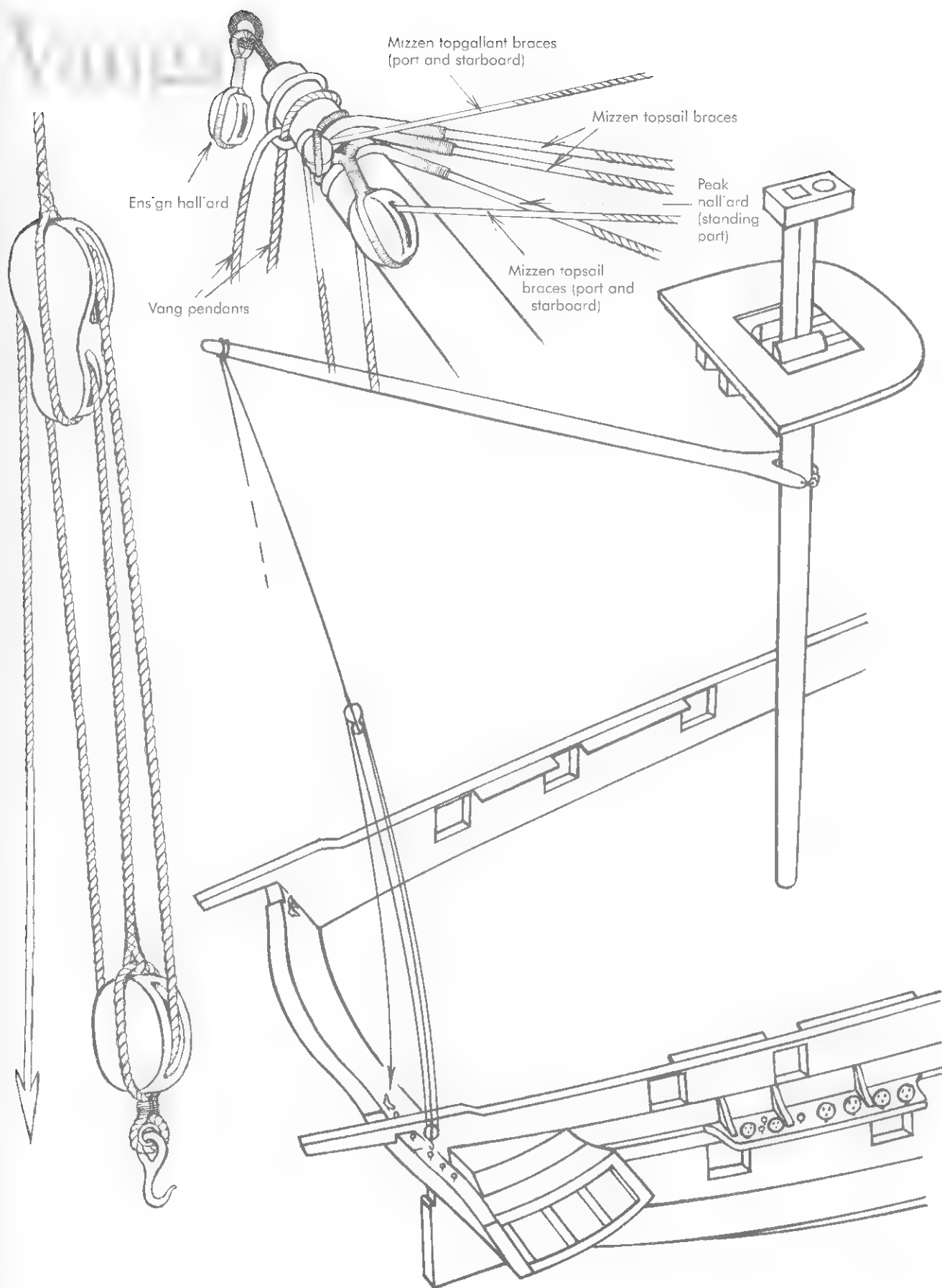


# Spanker Boom Sheet & Guy Pendant

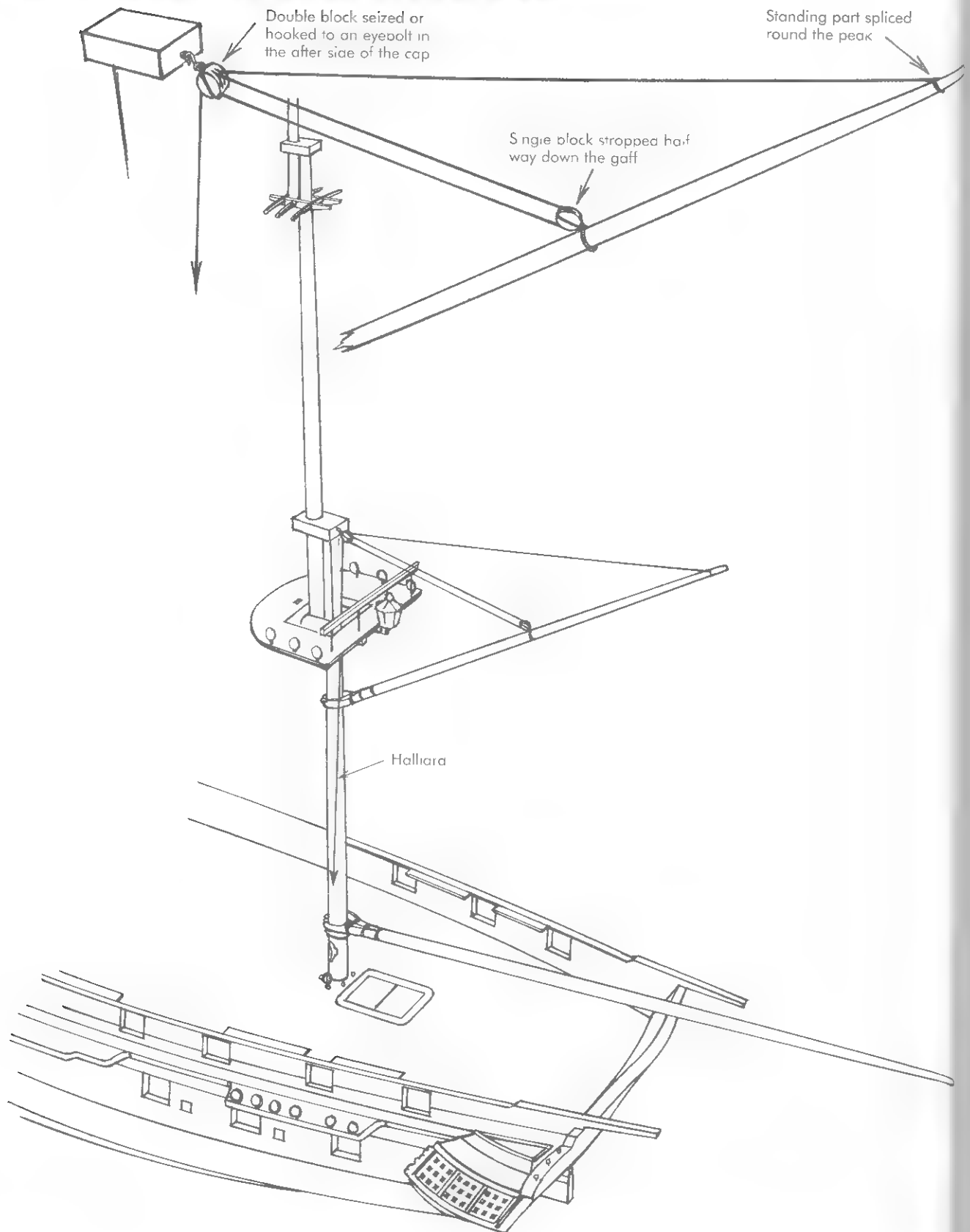


# Boom Topping Lift

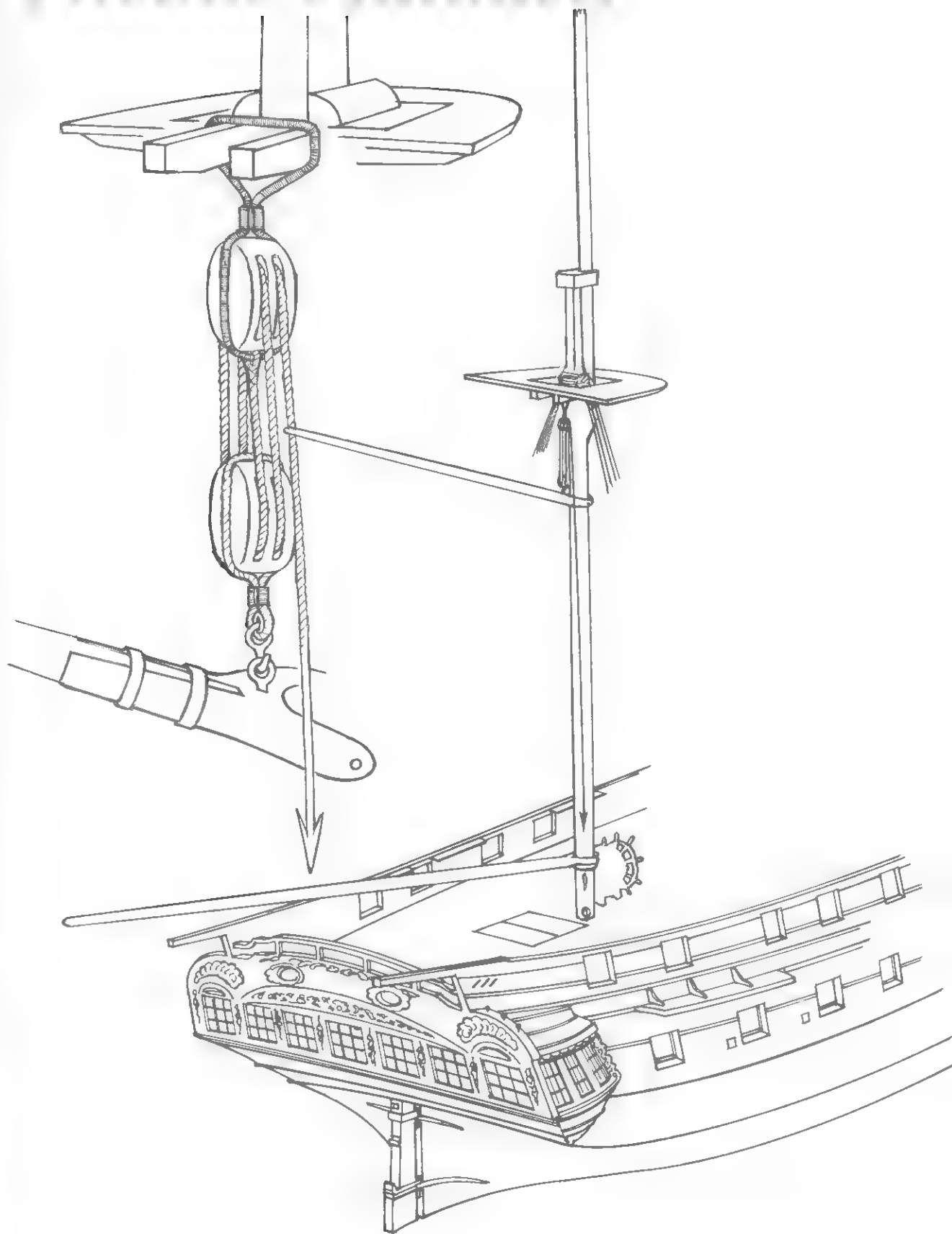




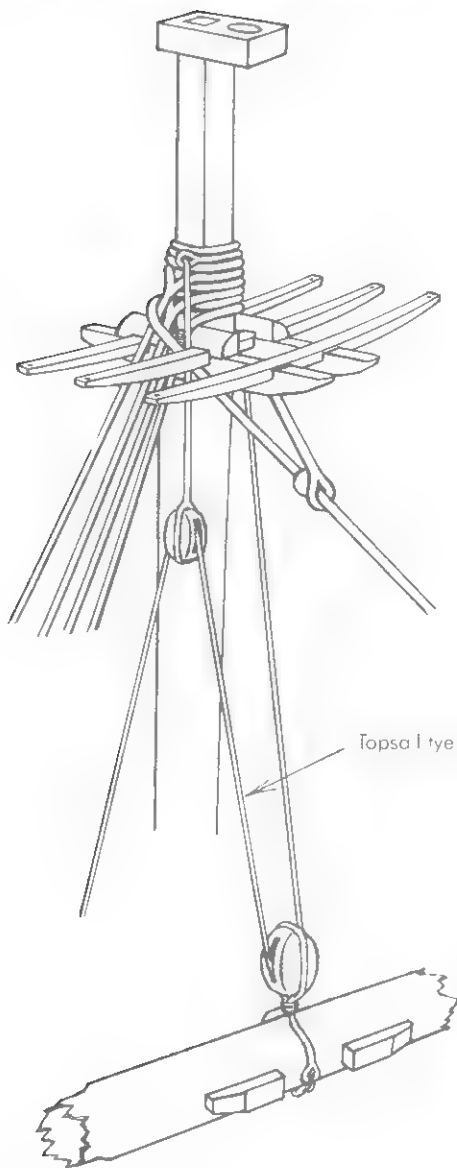
# Peak (Detailed)



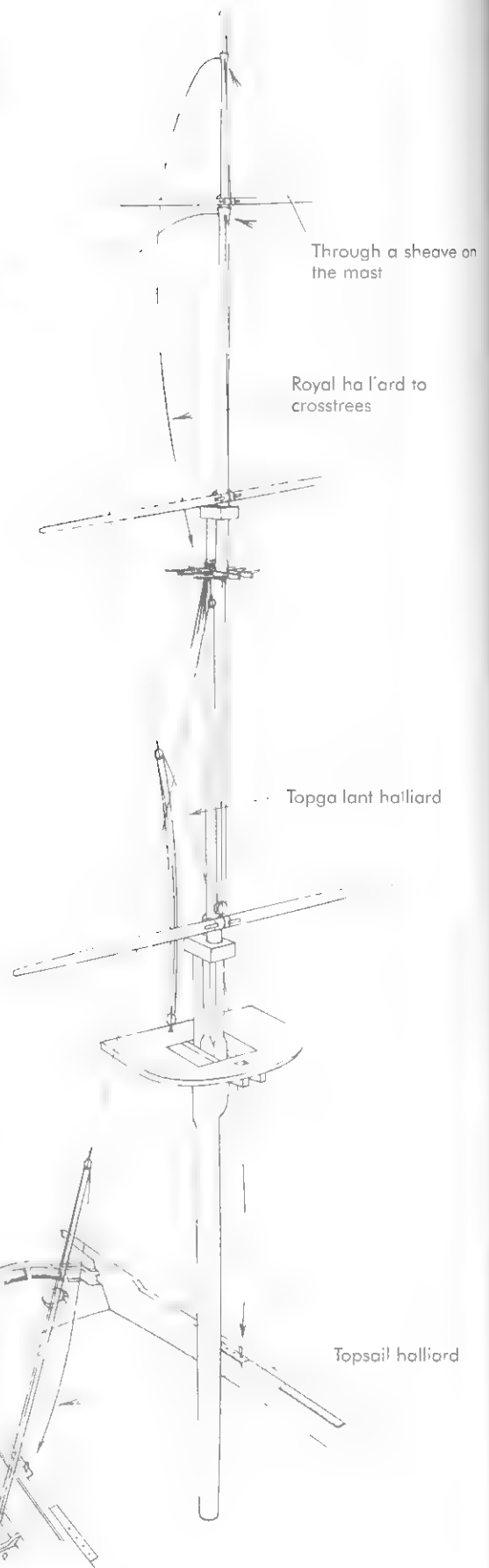
# Thron Hallbard



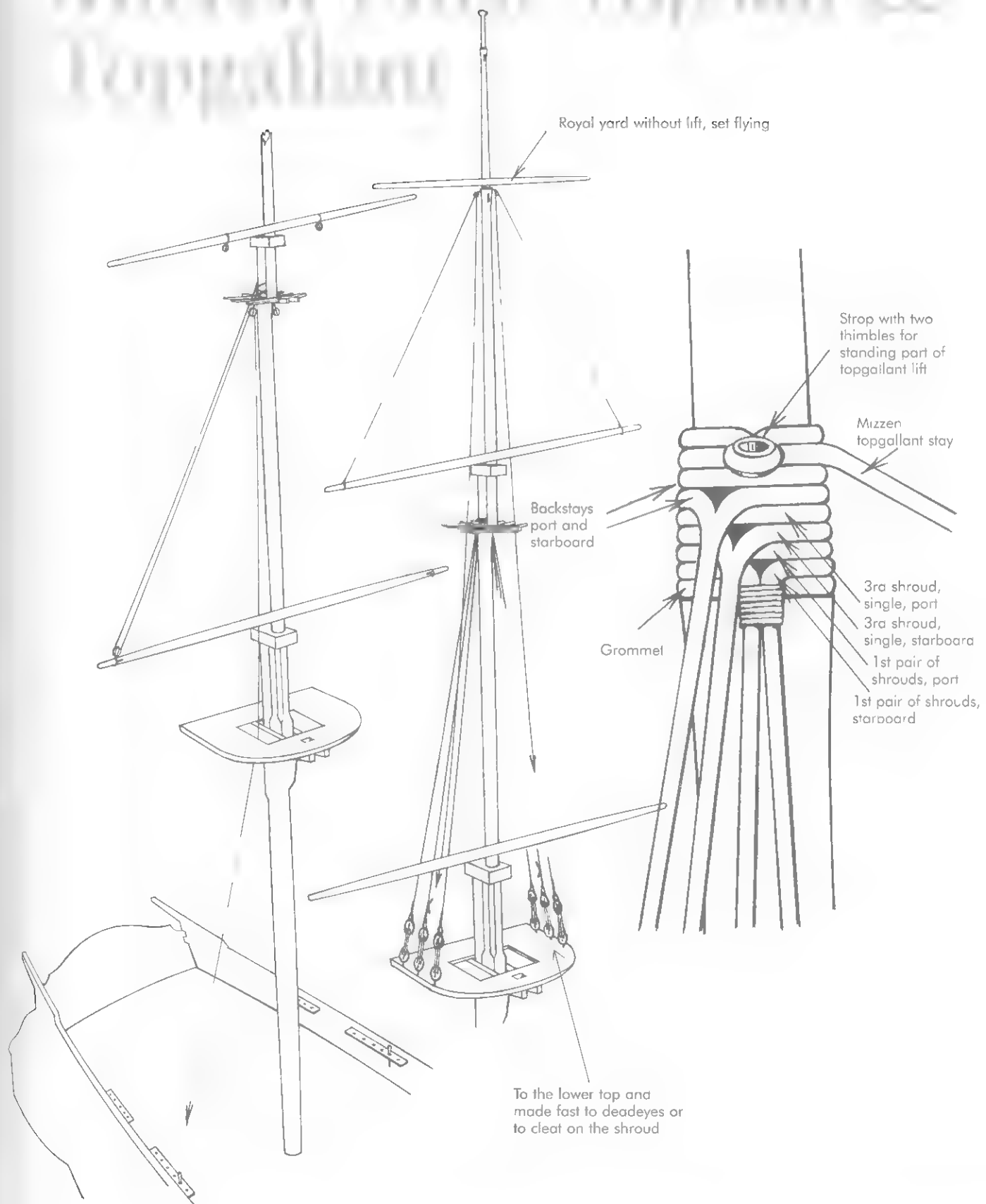
# Mizzen Treen Topmast, Topgallant & Royal Yards



Topmast lye running part

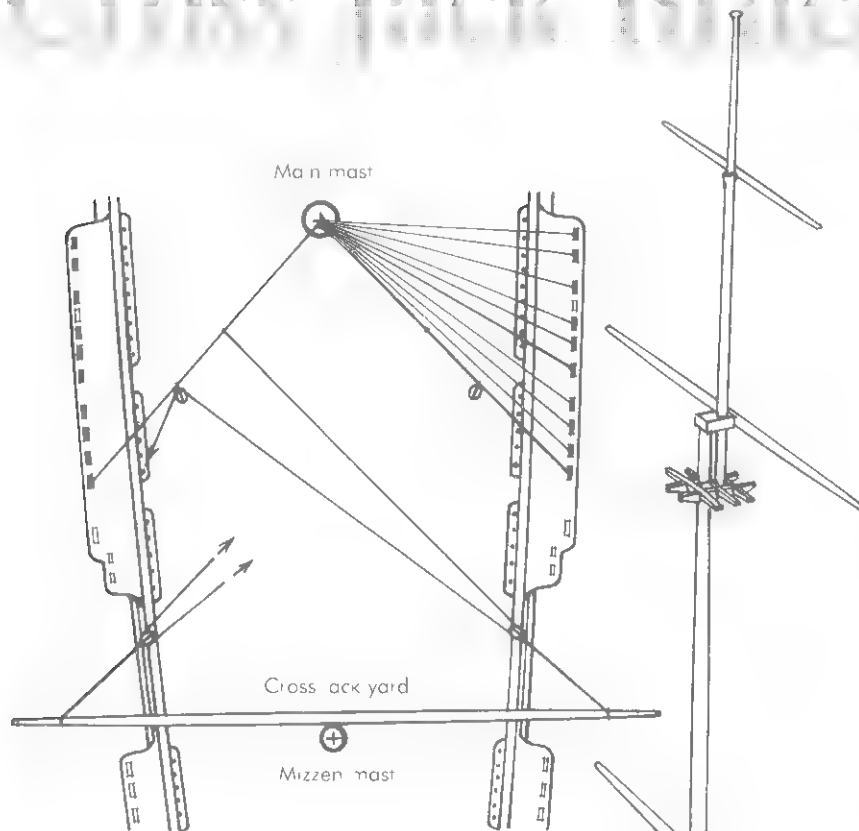


# Mizzen Mast Topgallant & Topgallant

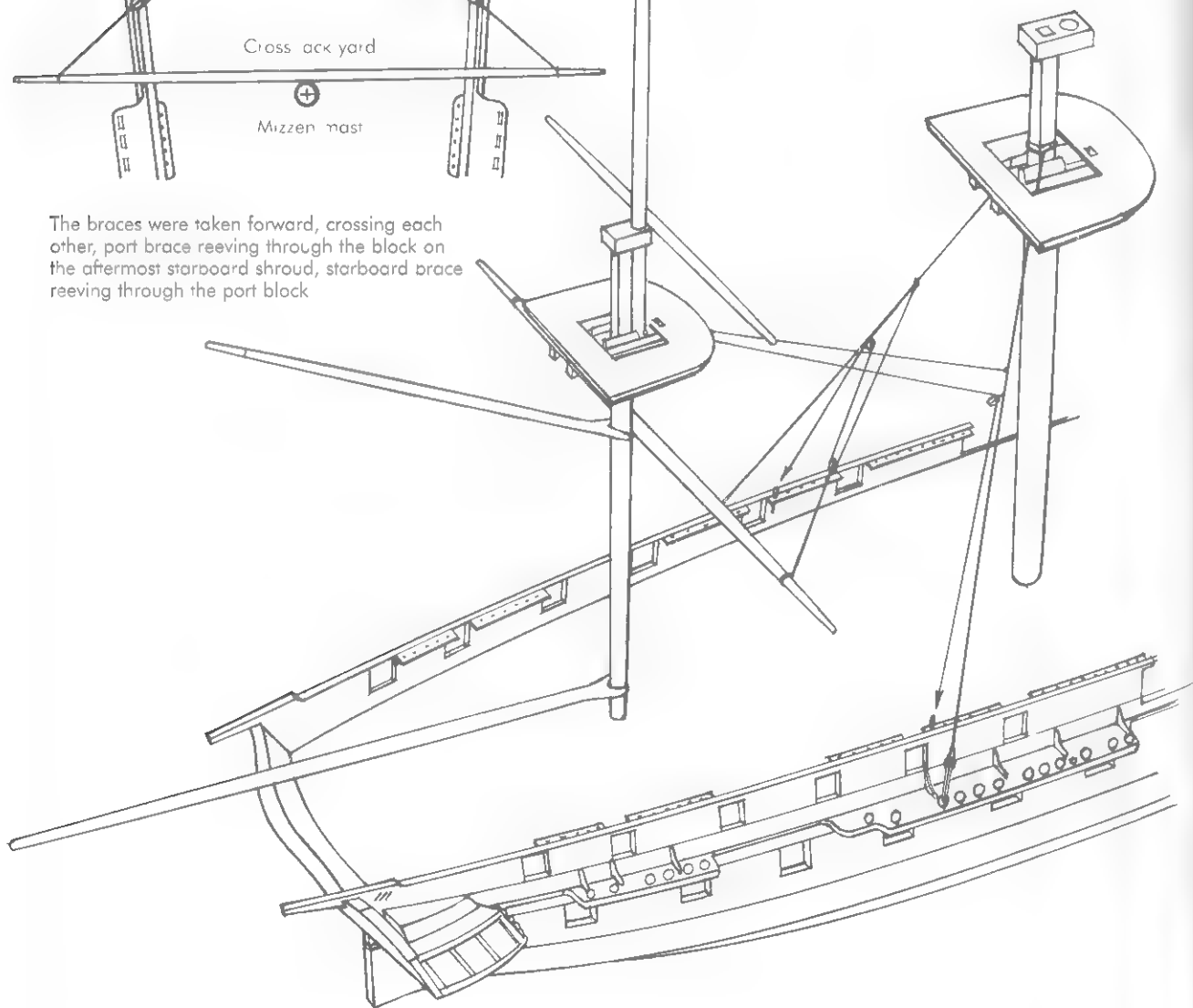




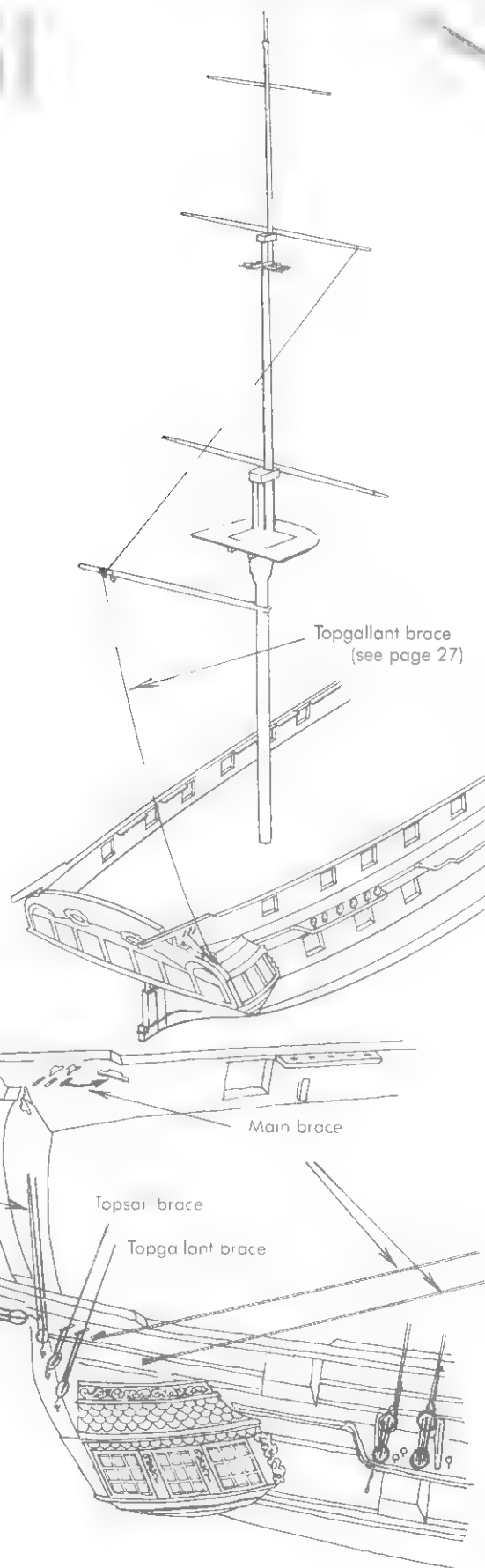
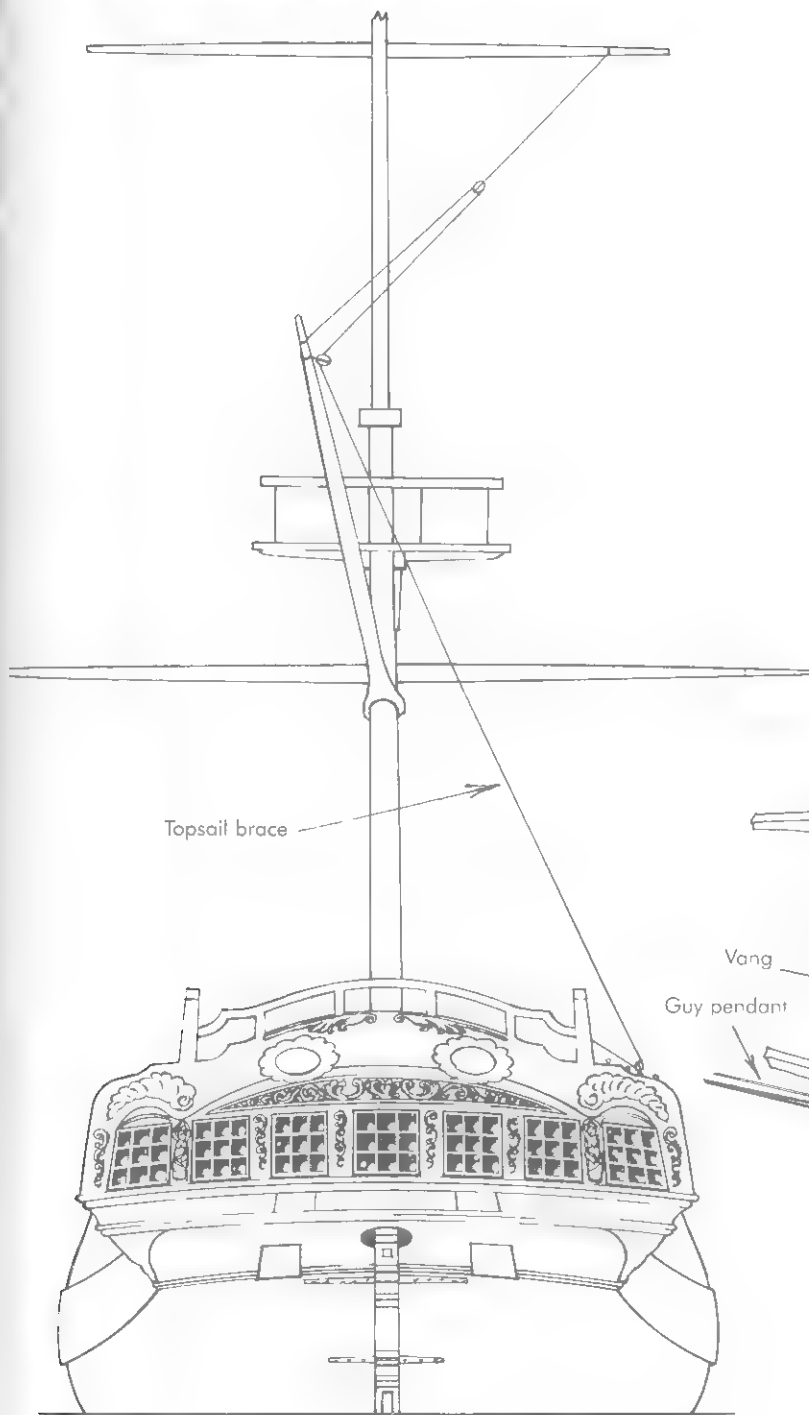
# Cross Jack Braces



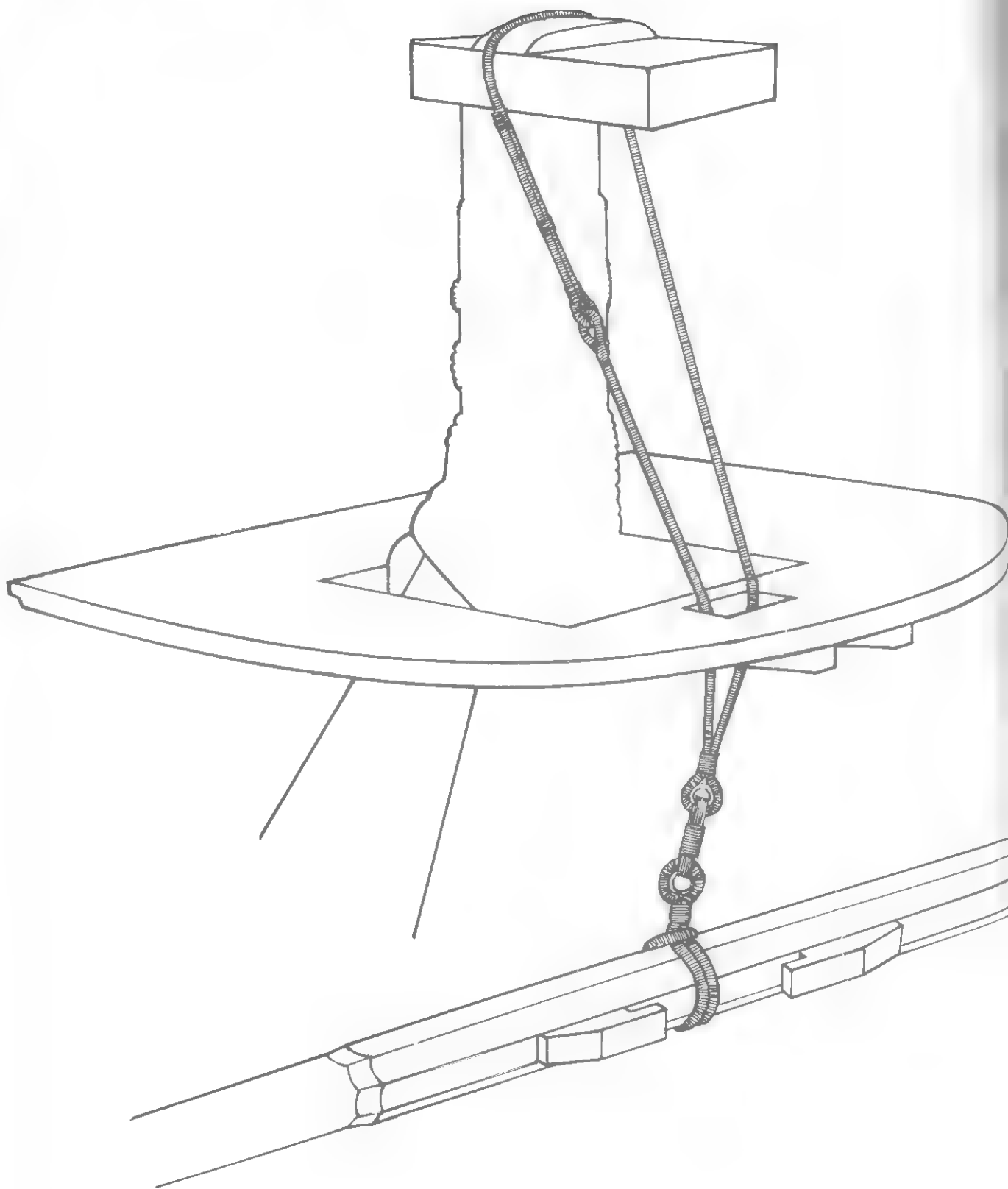
The braces were taken forward, crossing each other, port brace reeving through the block on the aftermost starboard shroud, starboard brace reeving through the port block



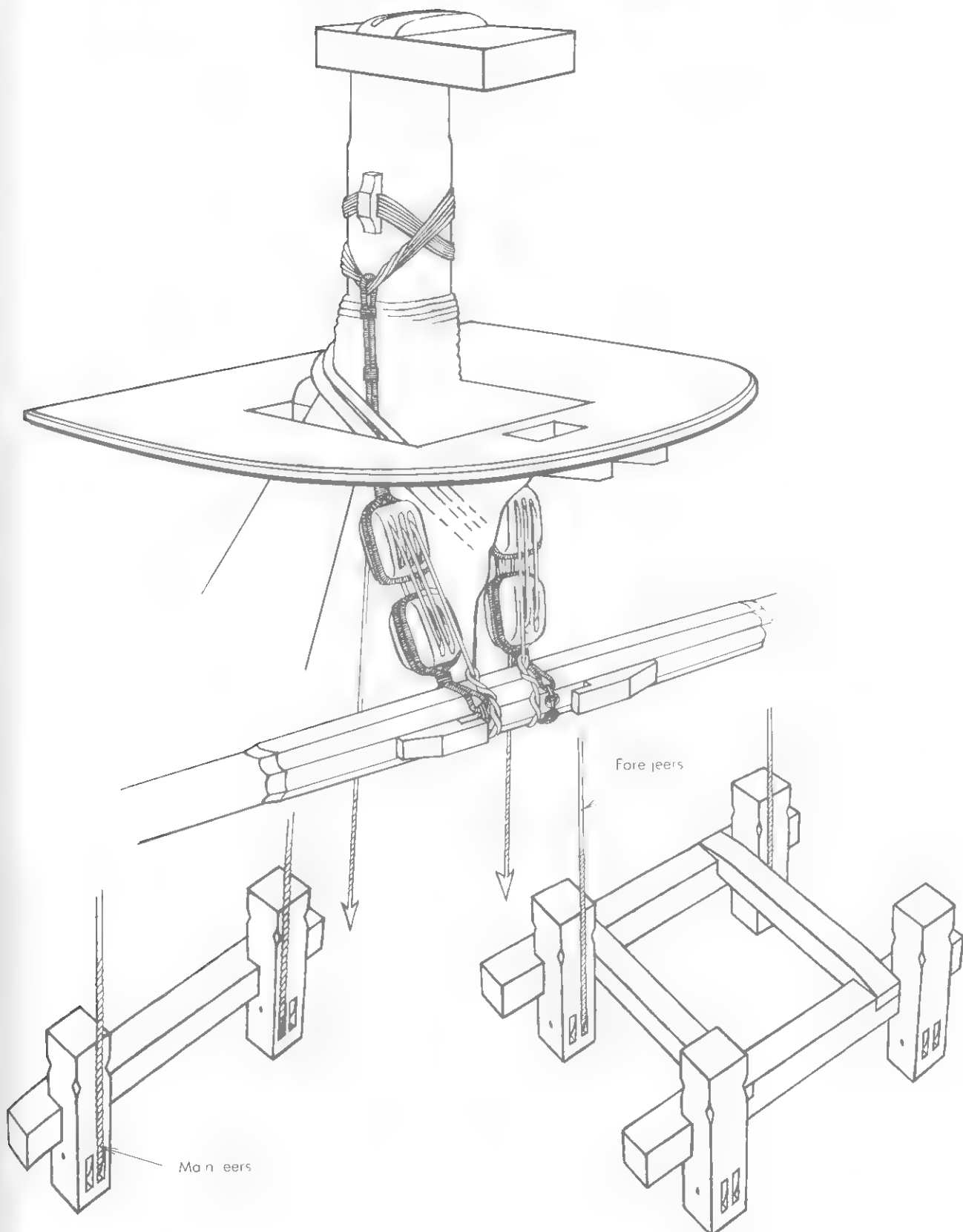
# Mizzen Topmast & Topgallant Braces



# Fore & Main Slings

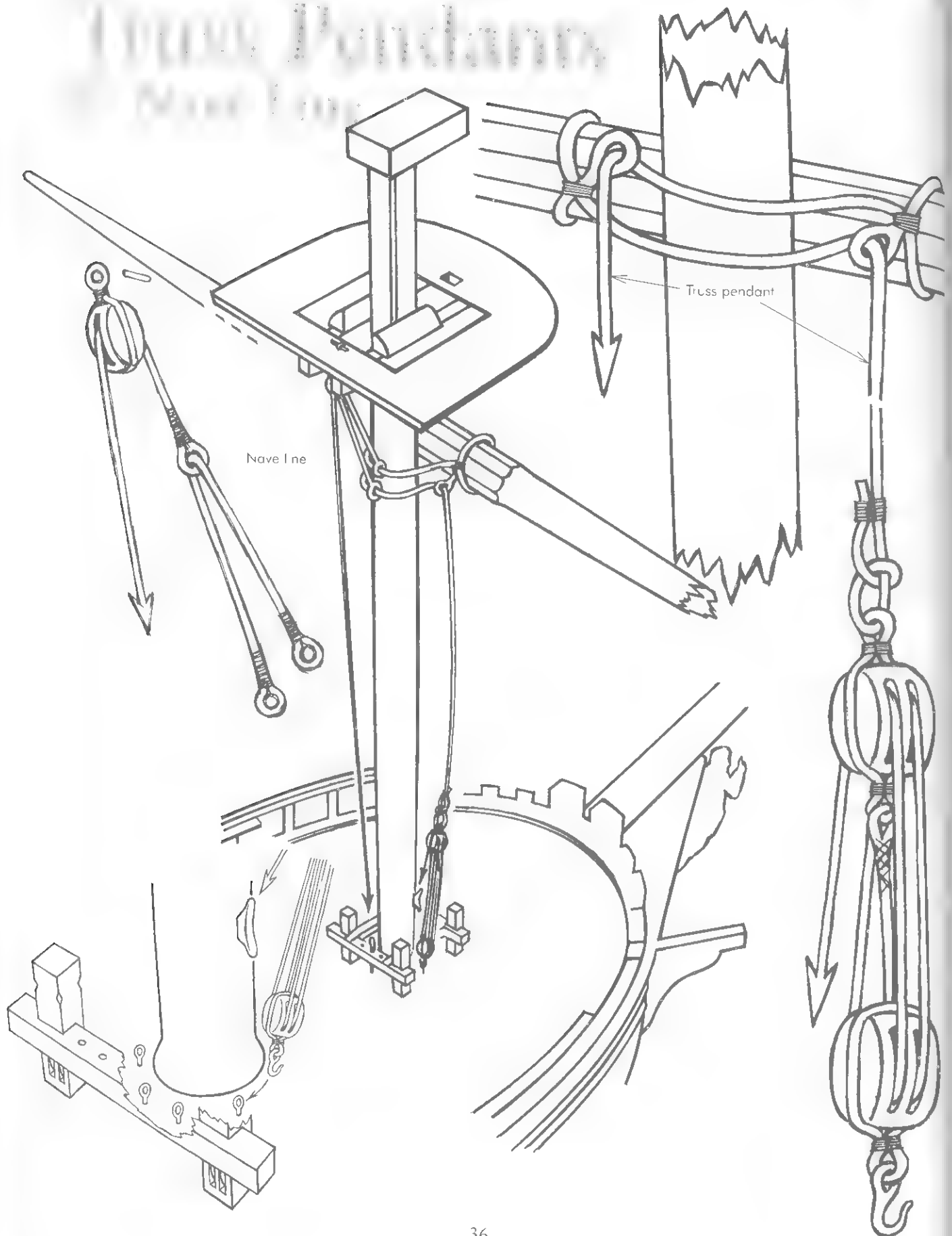


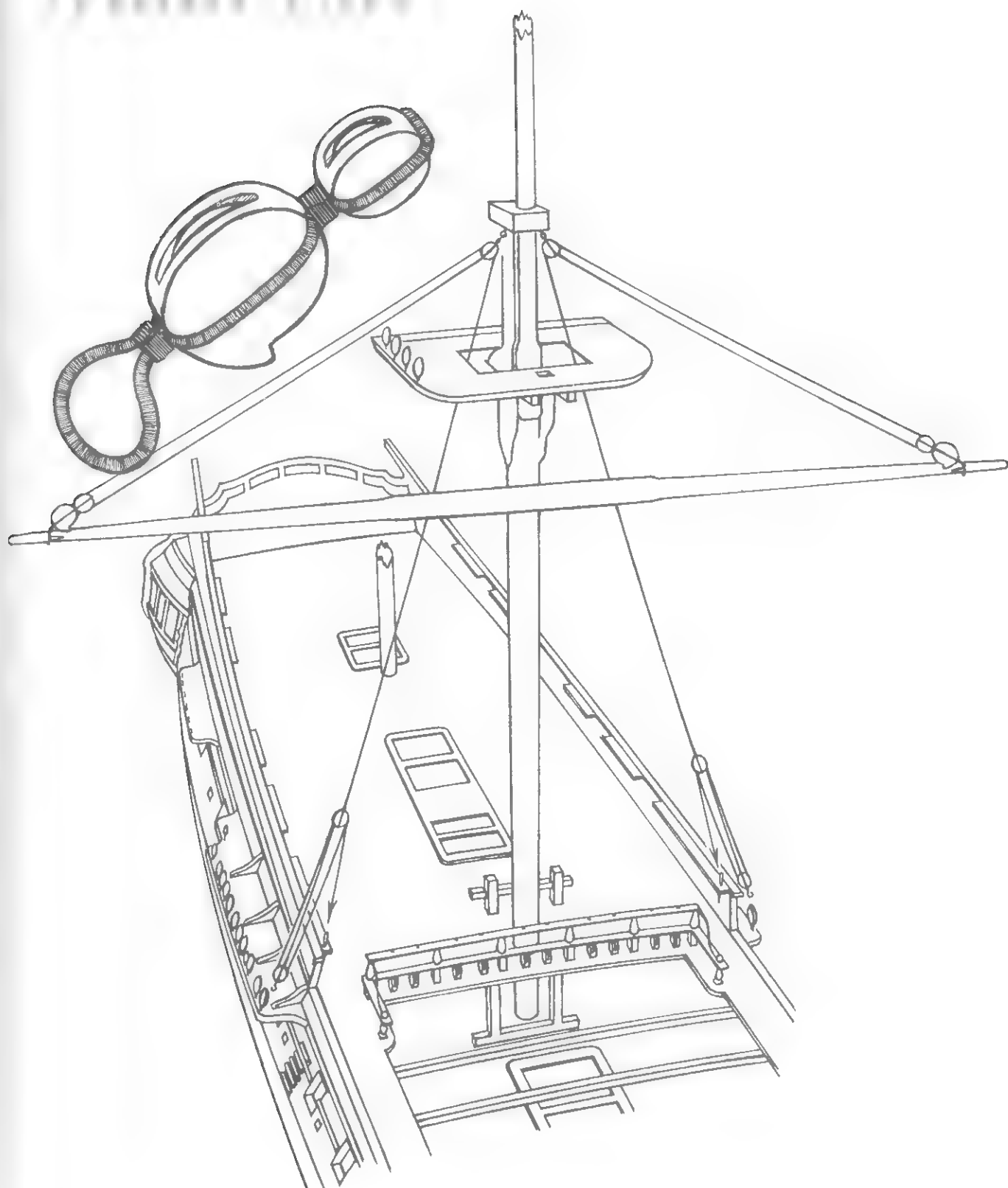
# Figure 2. Main Jeers

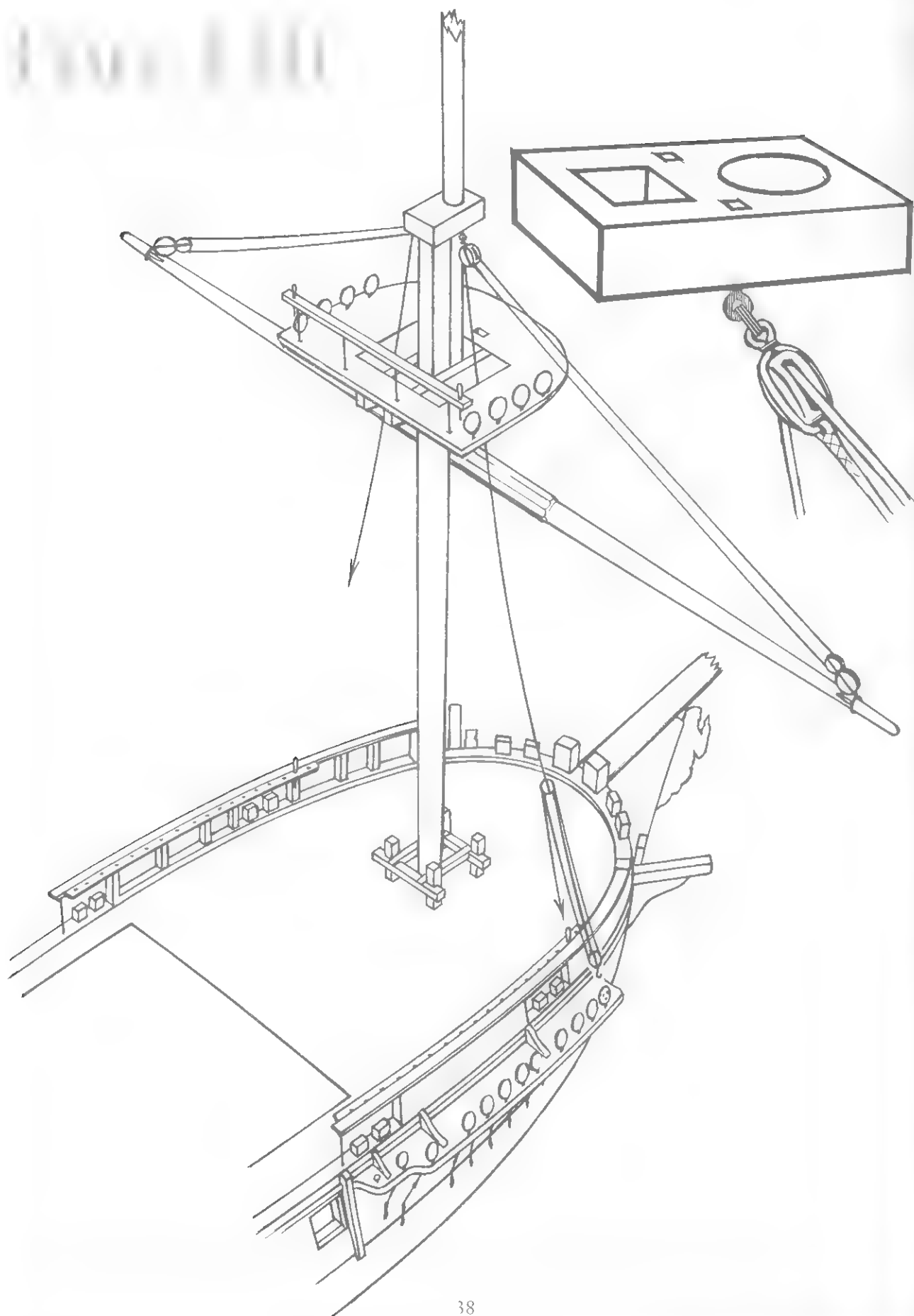


# Truss Pendant

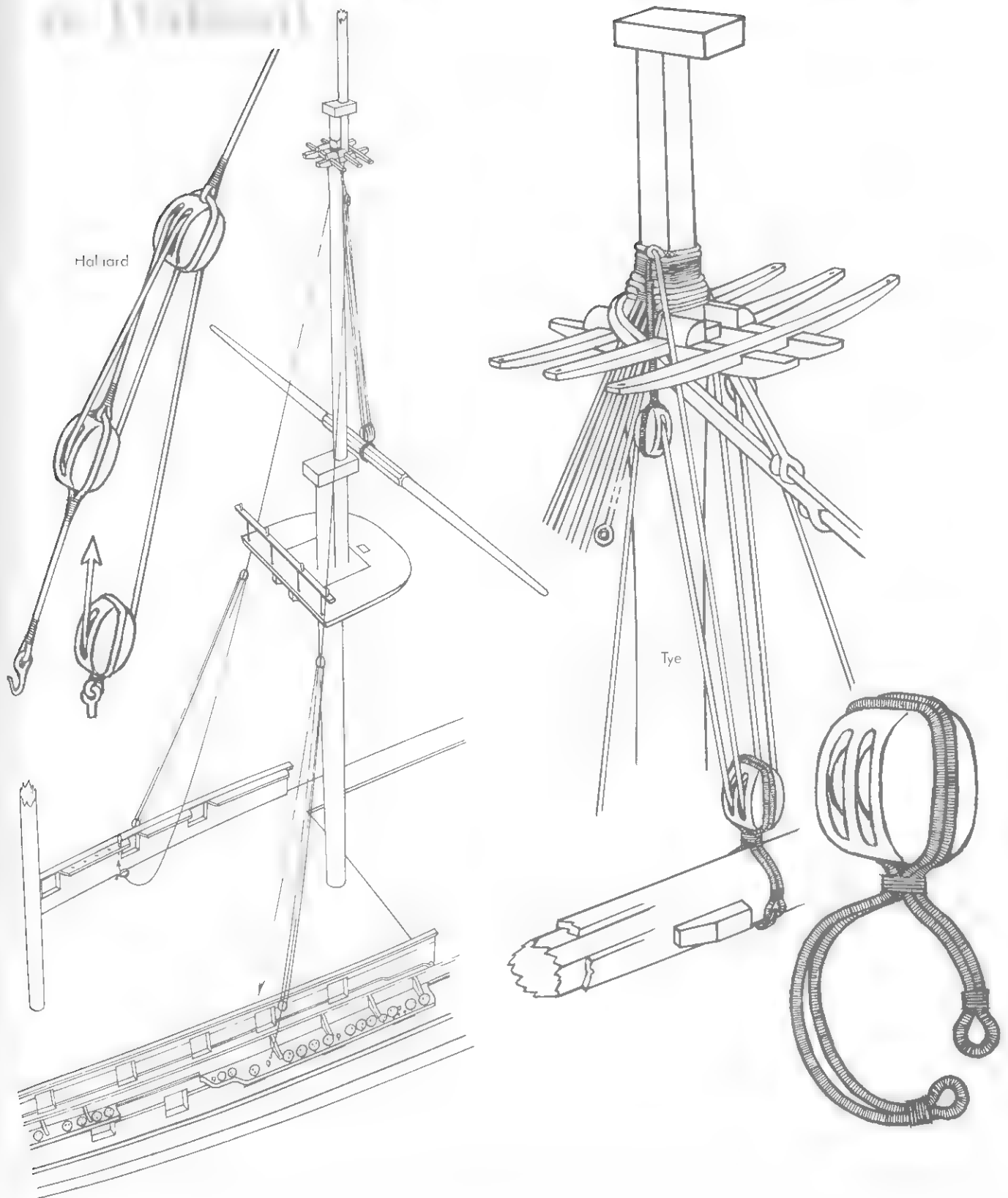
## How to Use





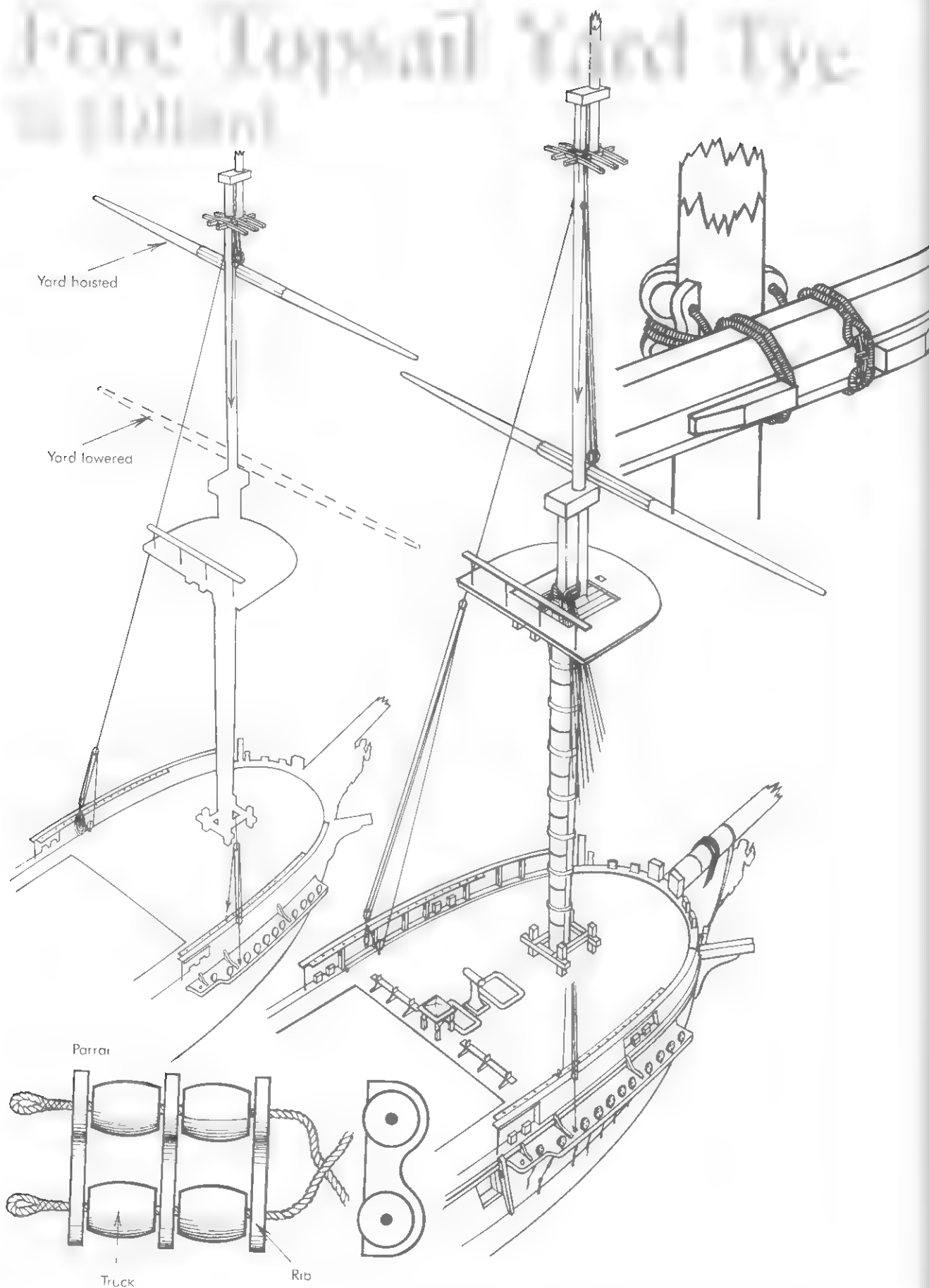


# Main Topmast Yard Eye

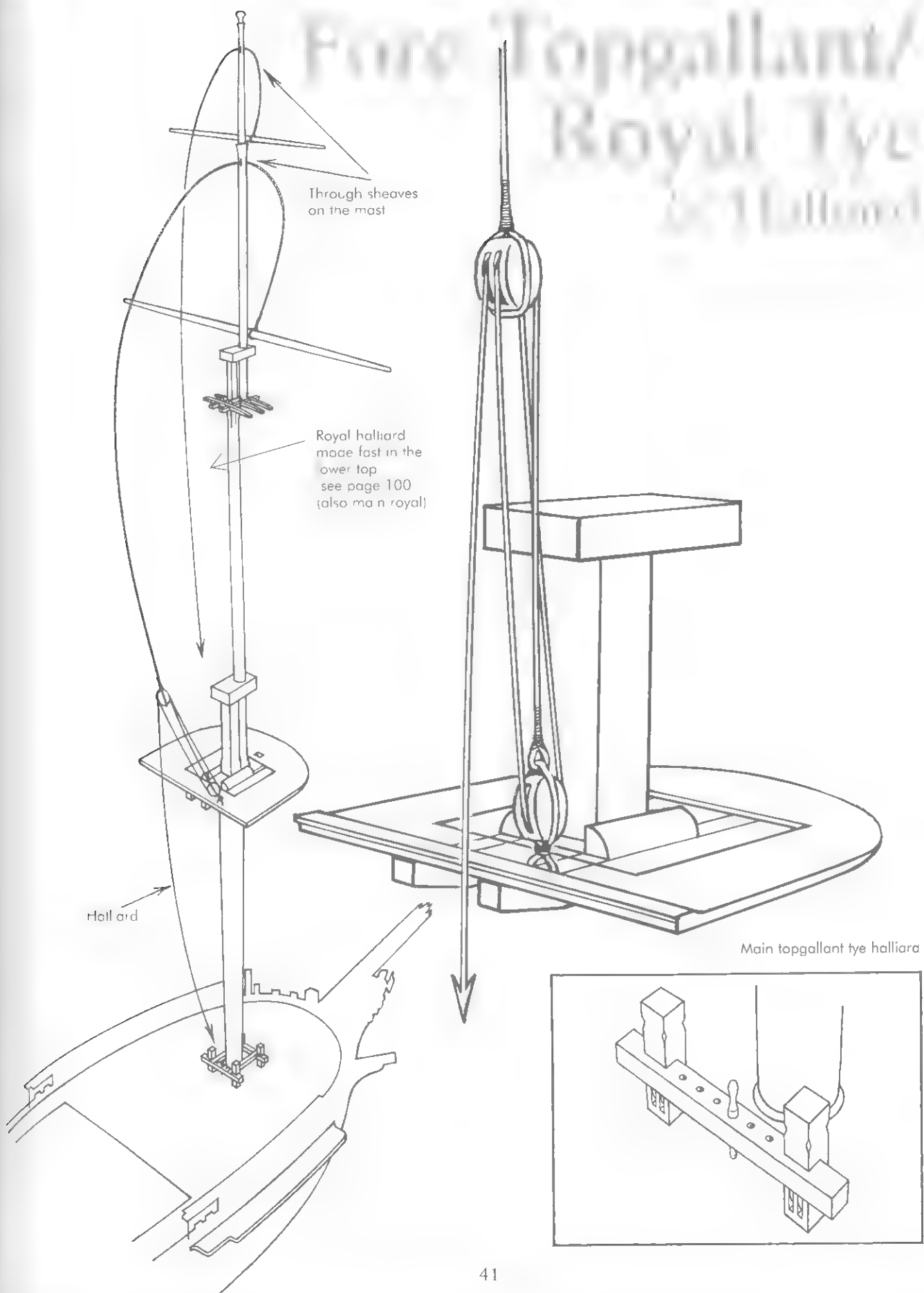




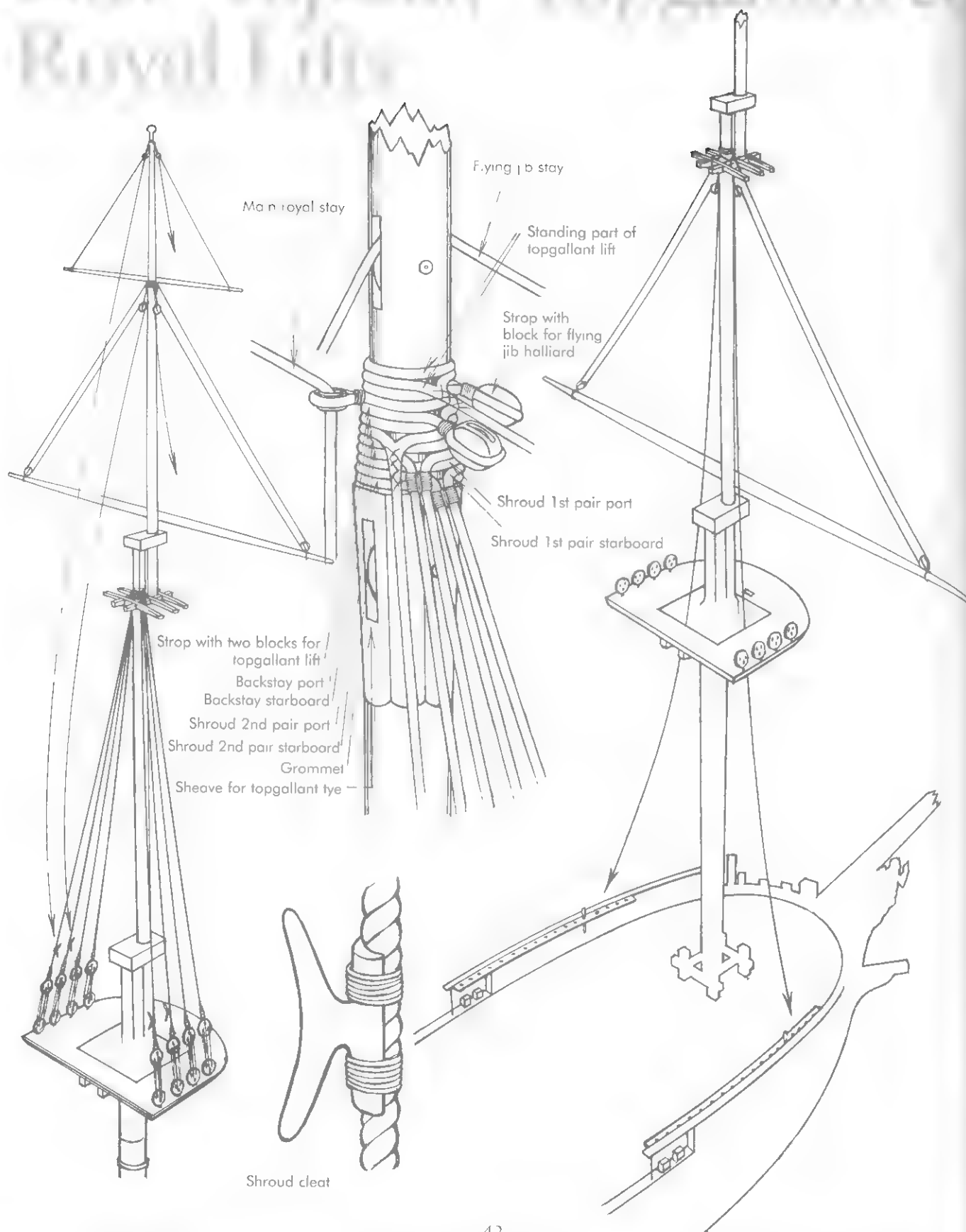
# Fore Topsail Yard Tye



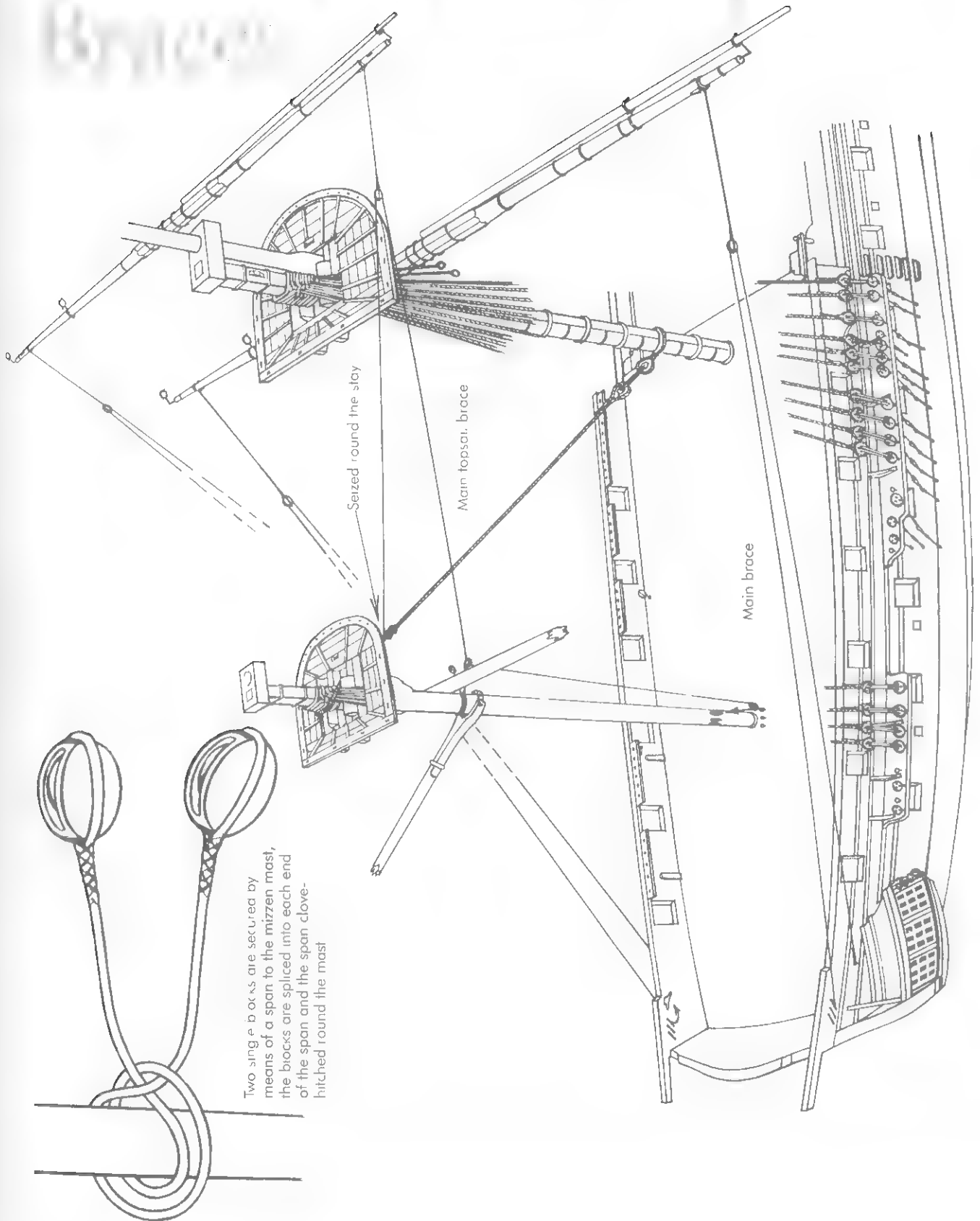
# Fore Toppallant/ Royal Tye of Halliard



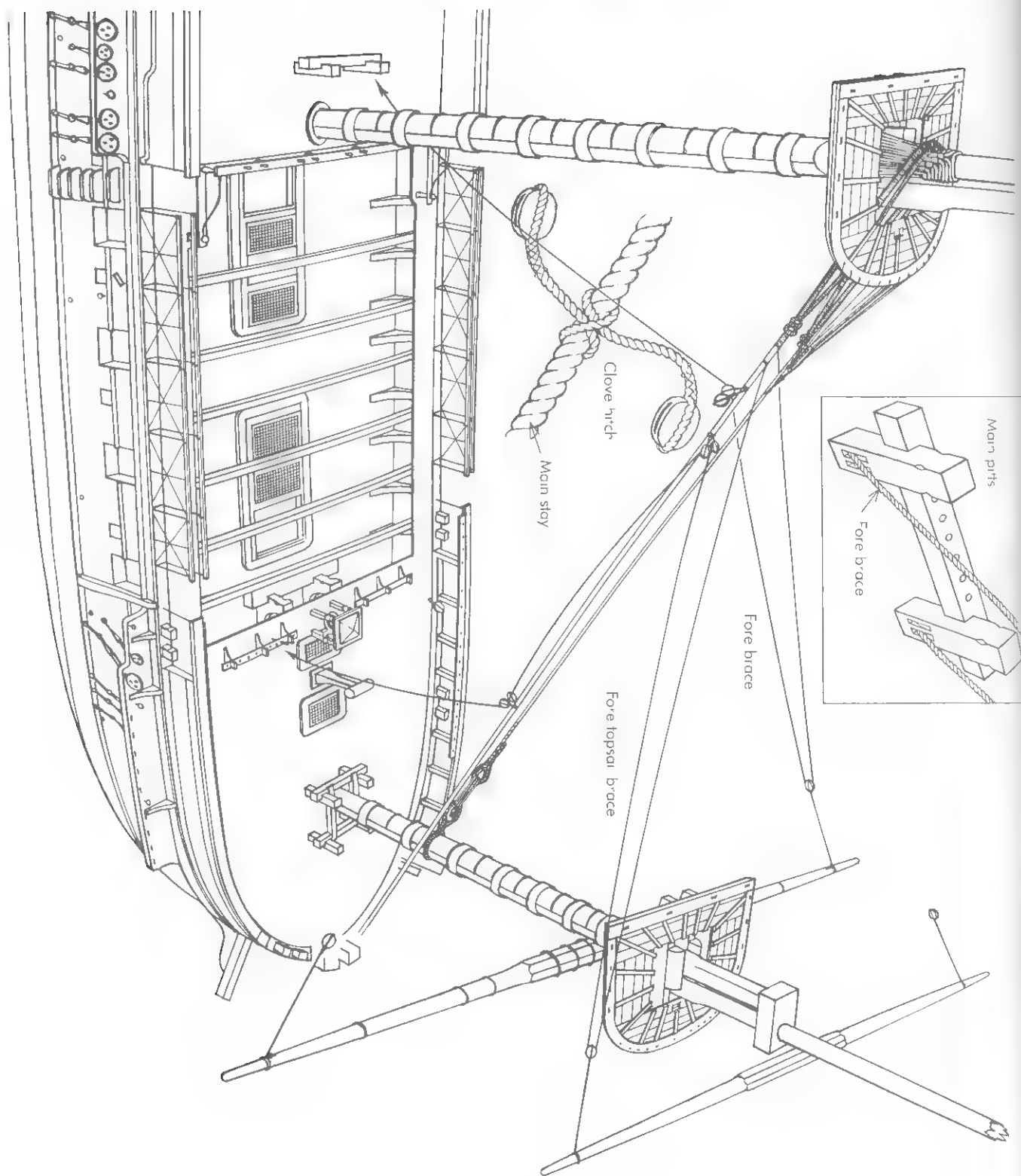
# Fore Topmast, Topgallant & Royal Luffs



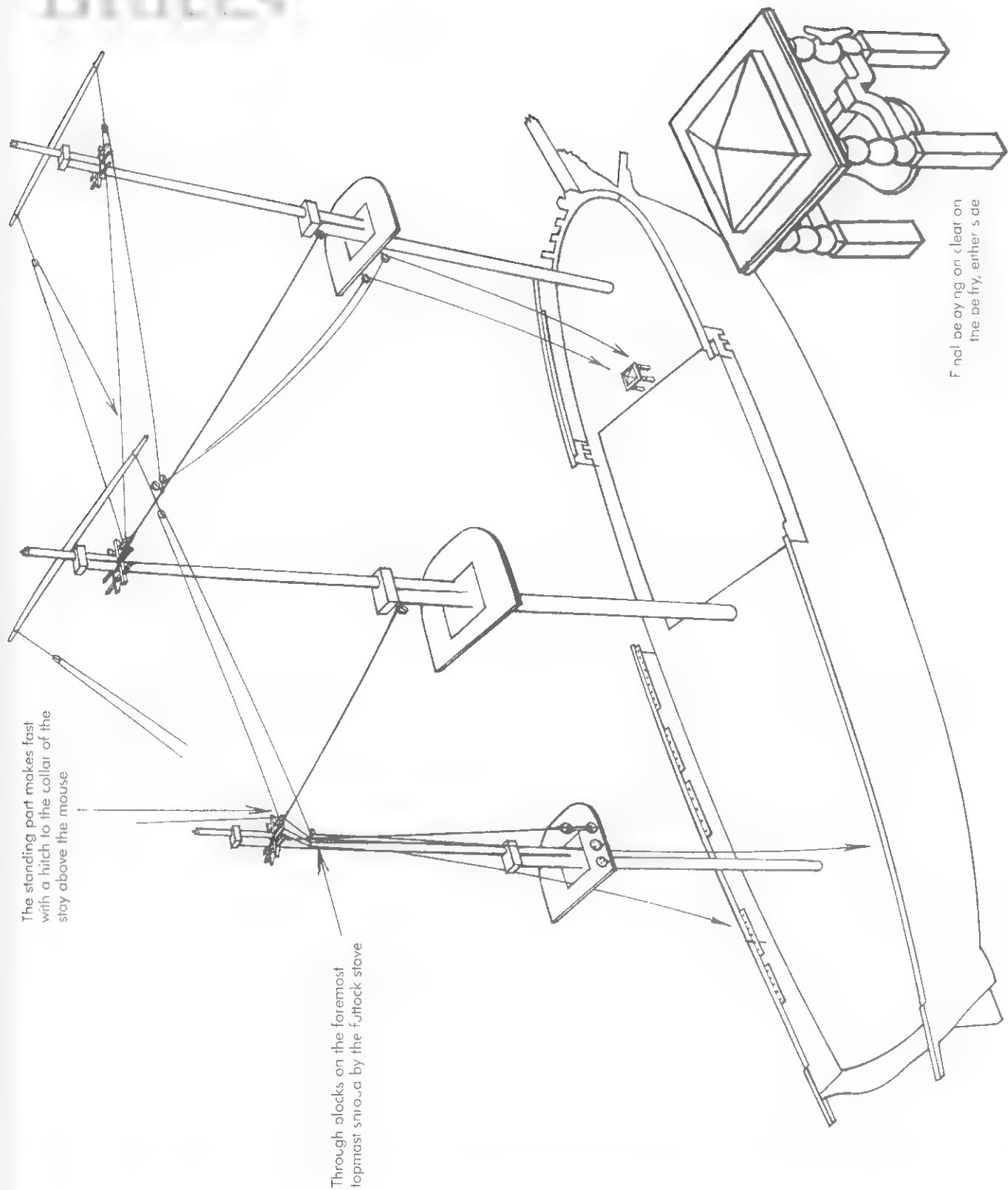
# Main & Main Topmast Brace



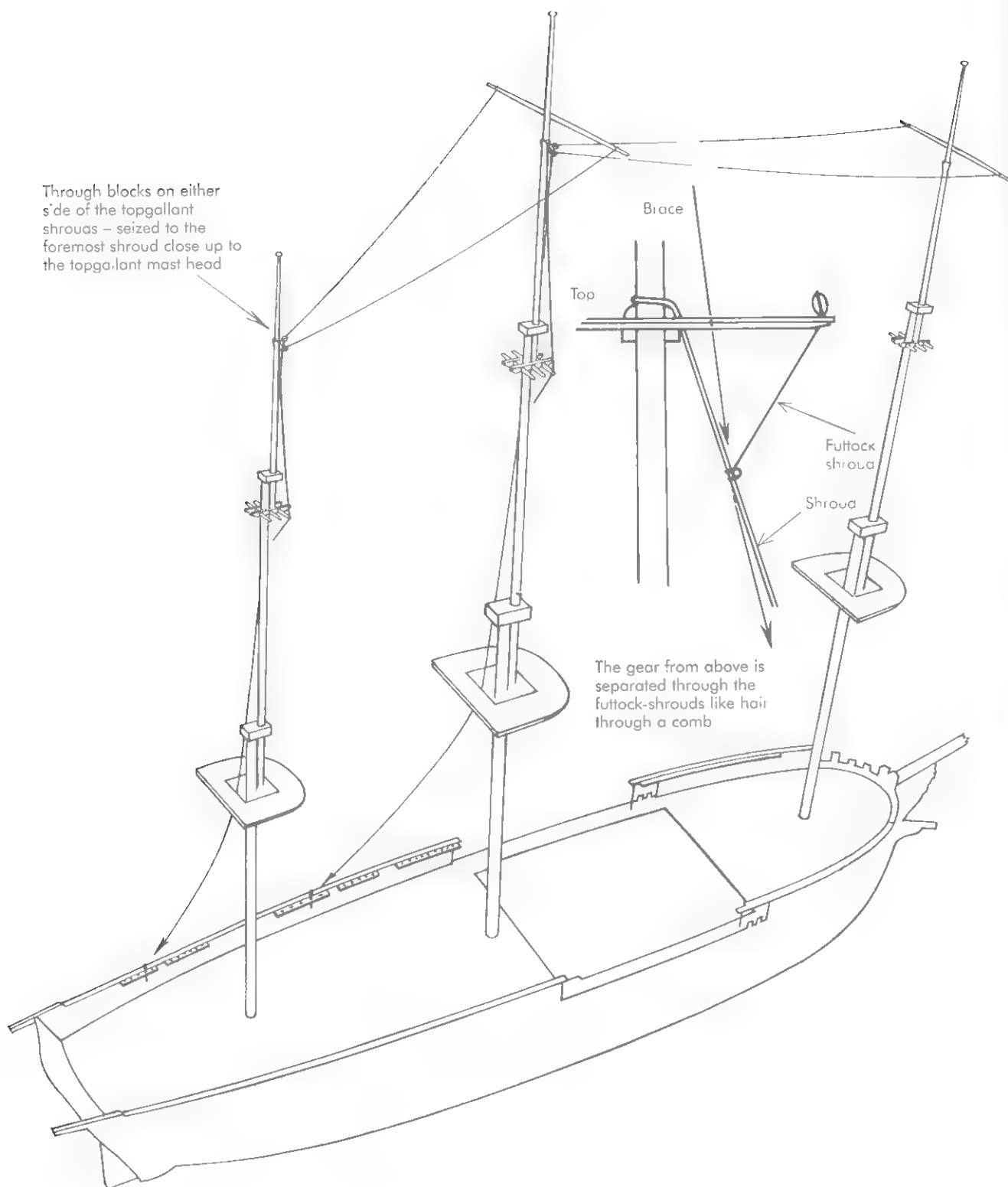
# Fore & Main Topsail Braces



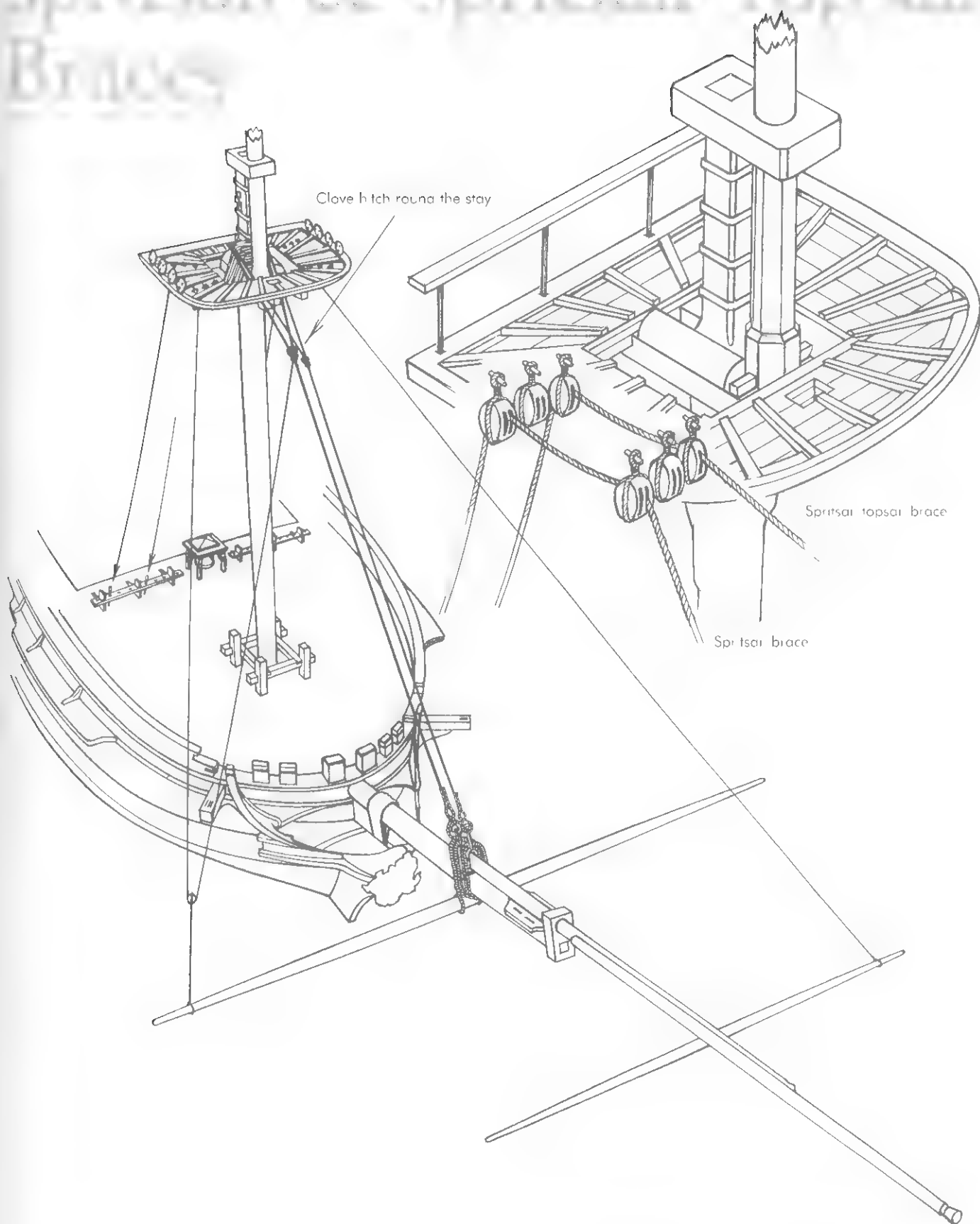
# Fore & Main Topgallant Braces



# Drive of Main Royal Braces

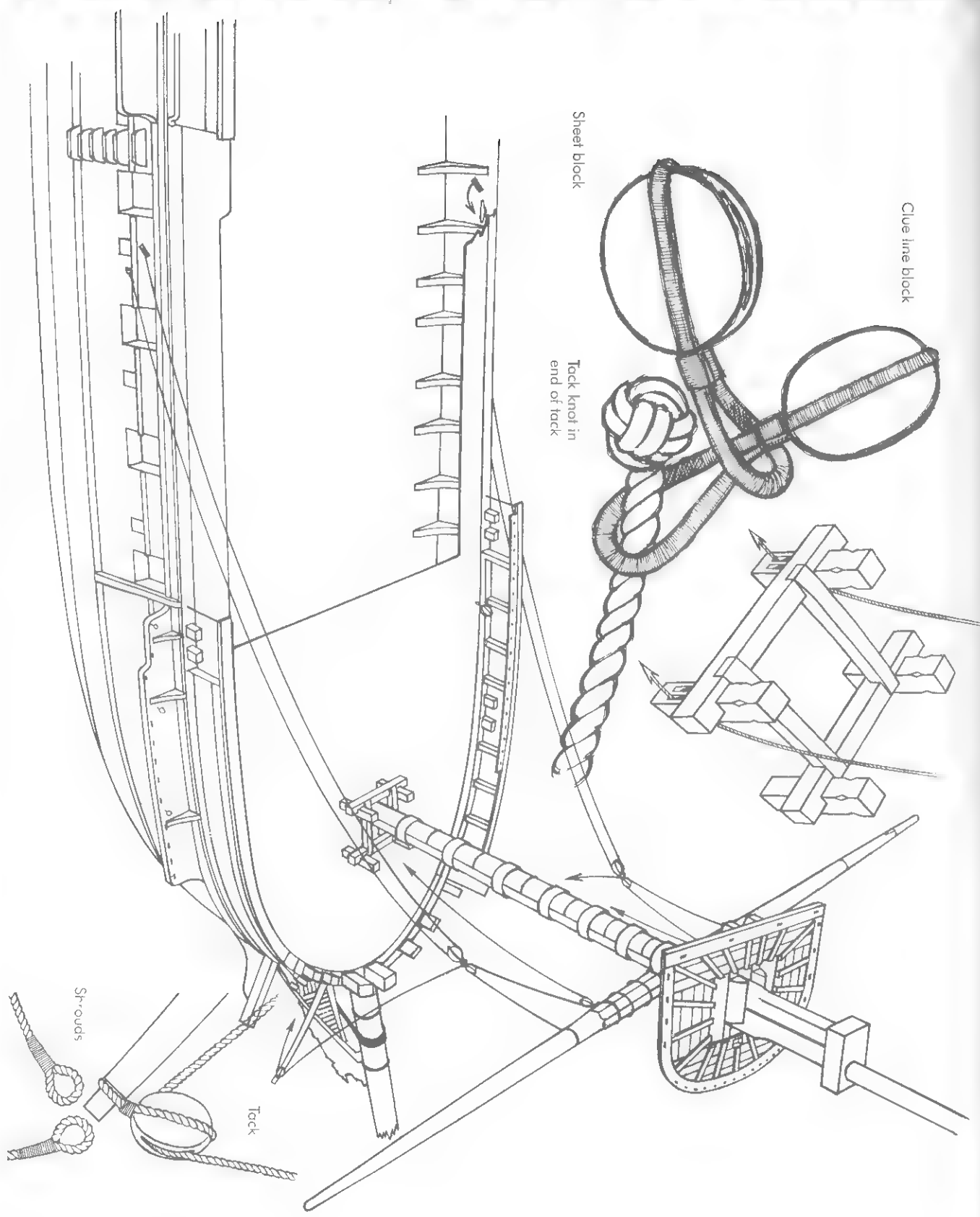


# Spritsail & Spritsail Topsail Braces

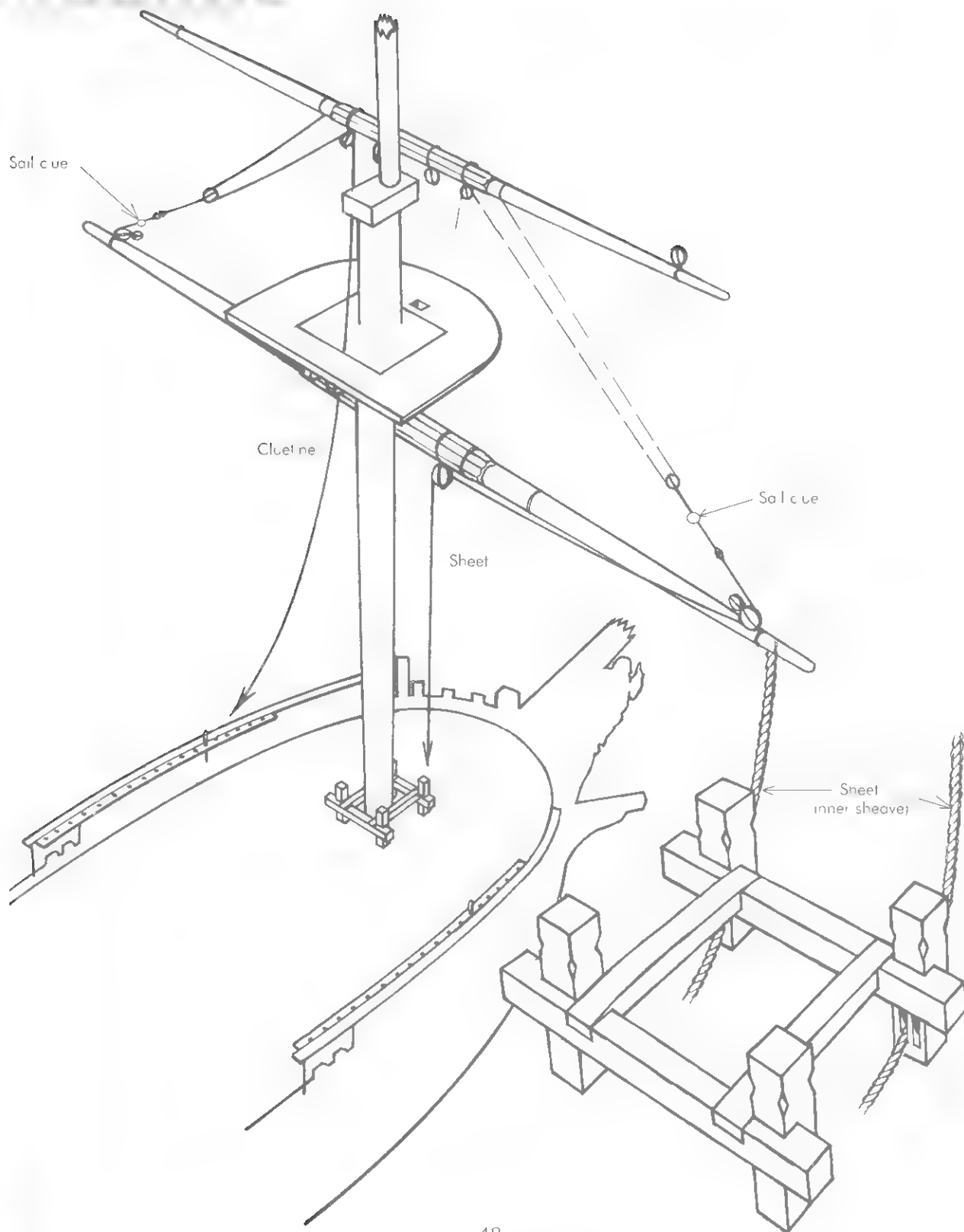




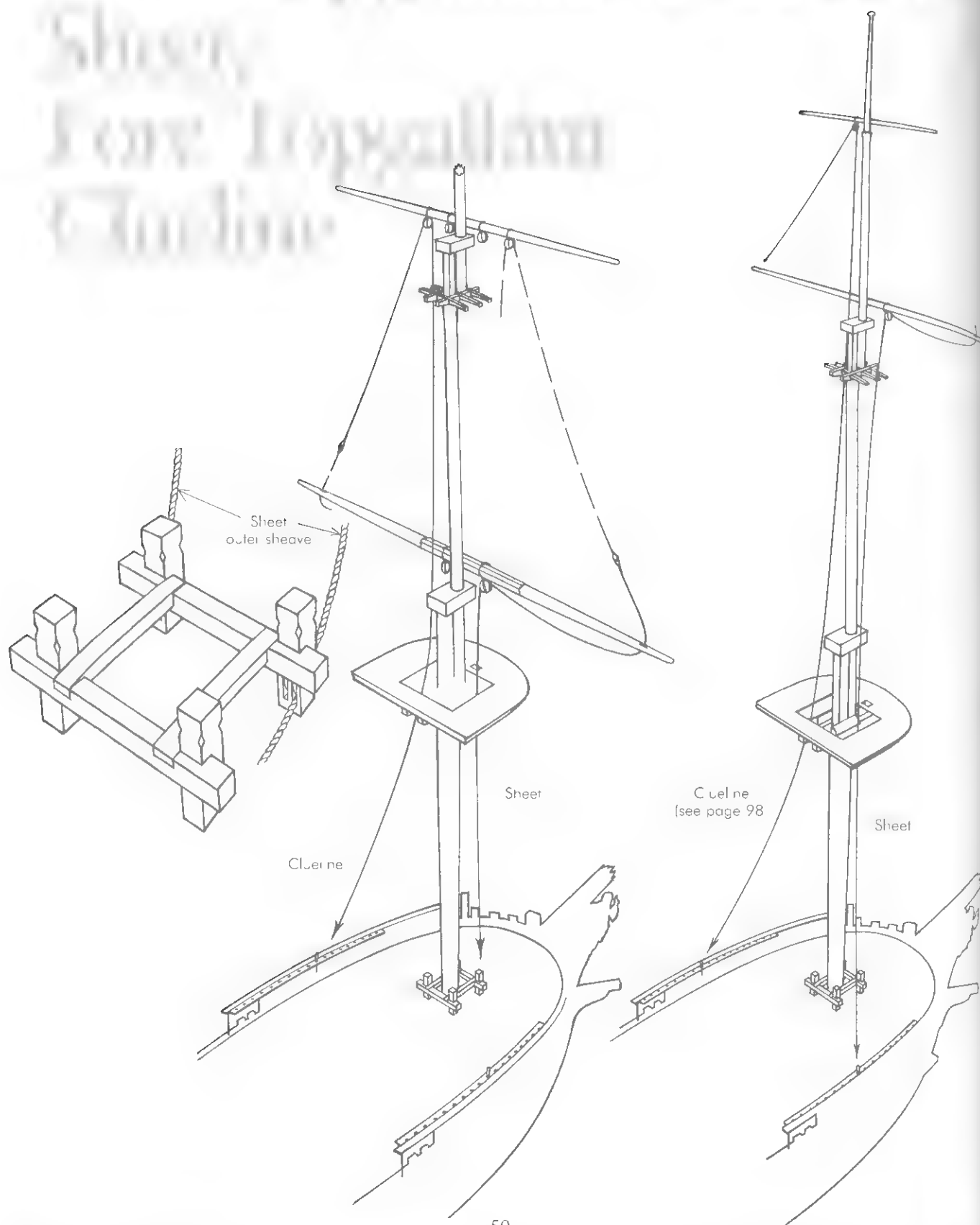
# Fore Sheet Tack & Clodine



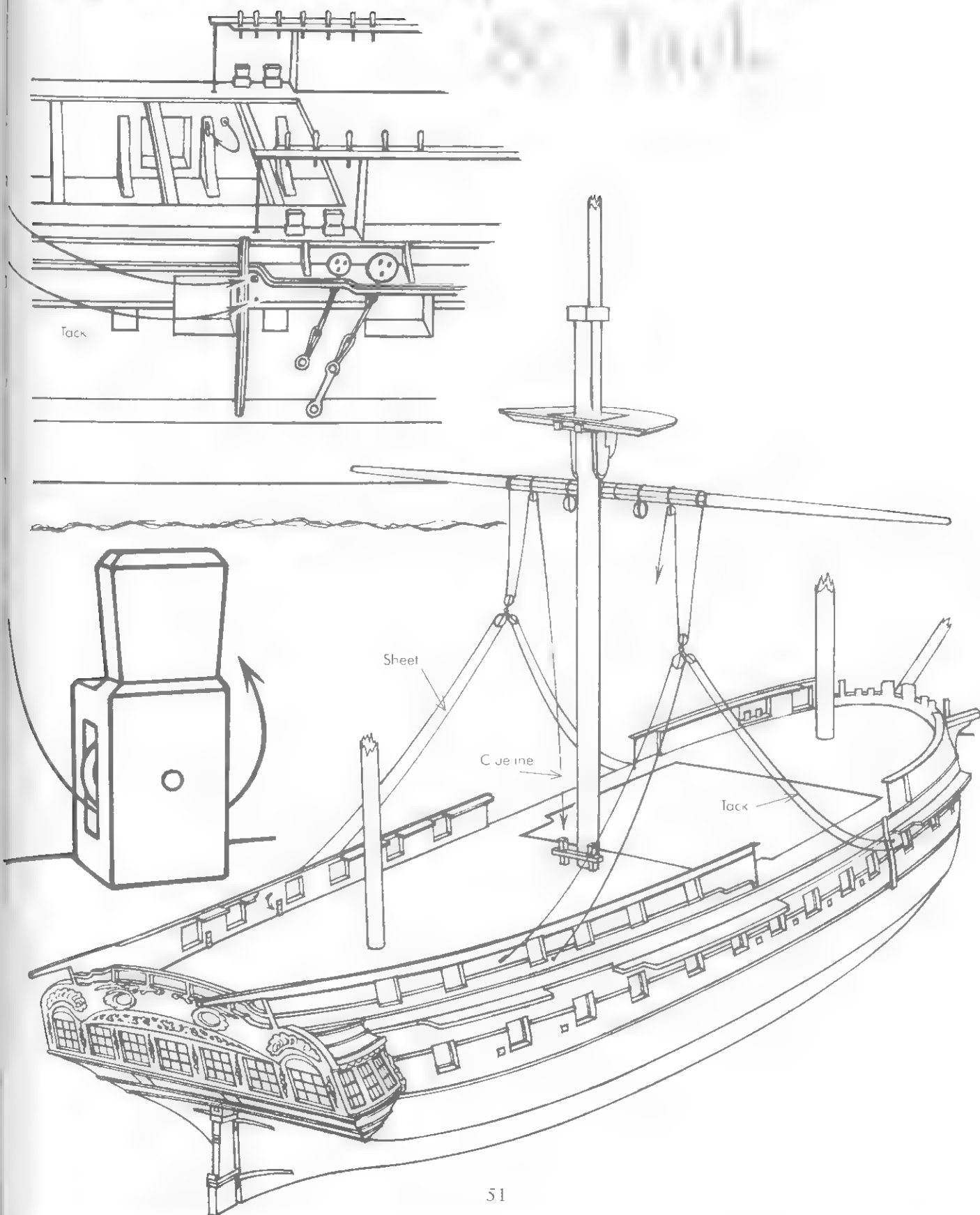
# Fore Topsail Sheet & Clue



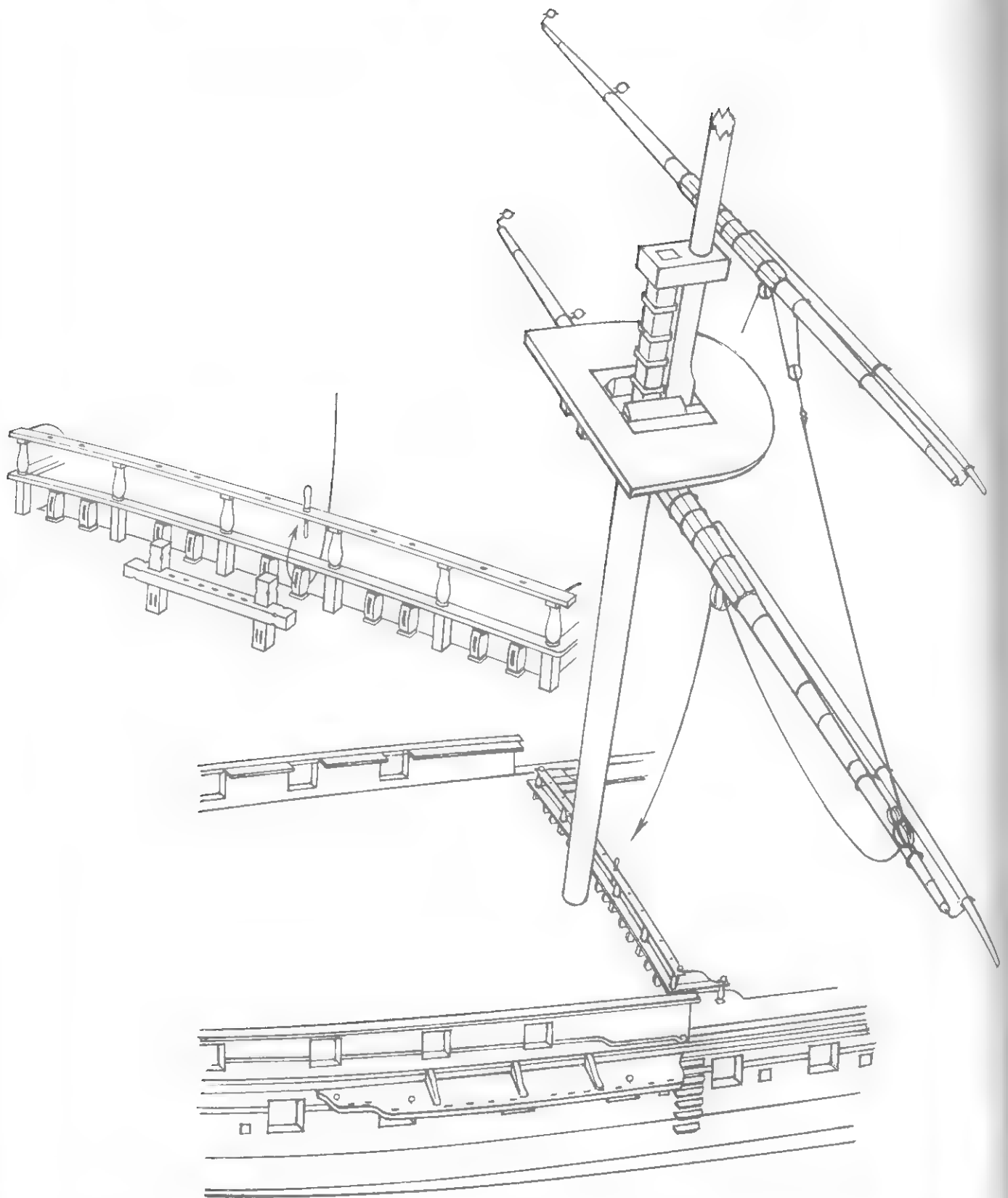
# Fore Topgallant & Royal Sheet Fore Topgallant Clewline



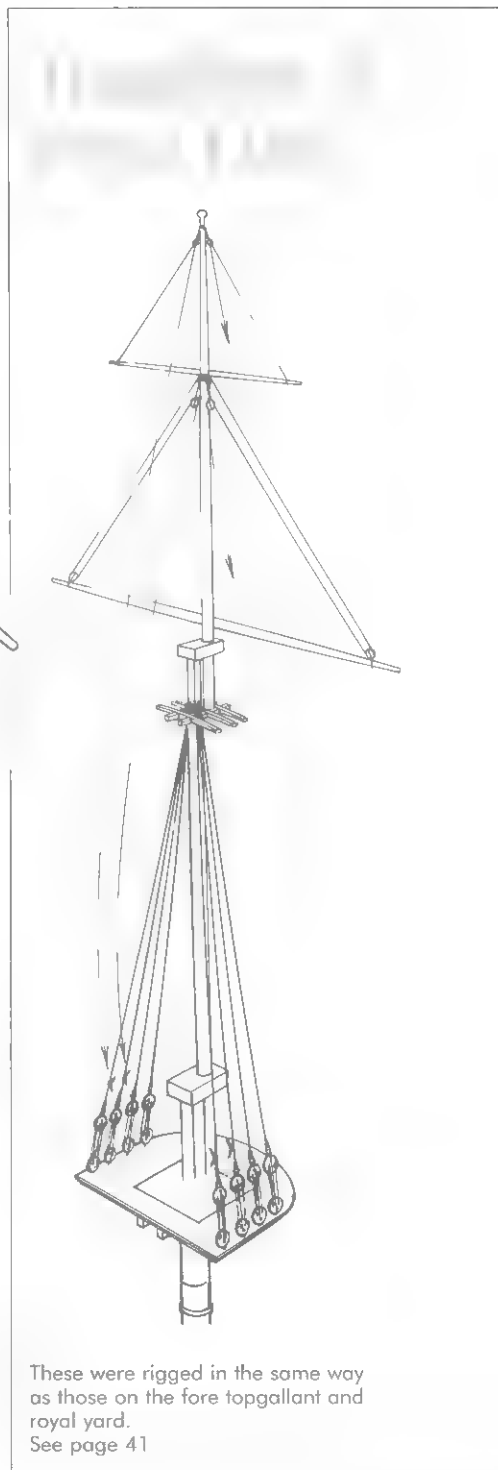
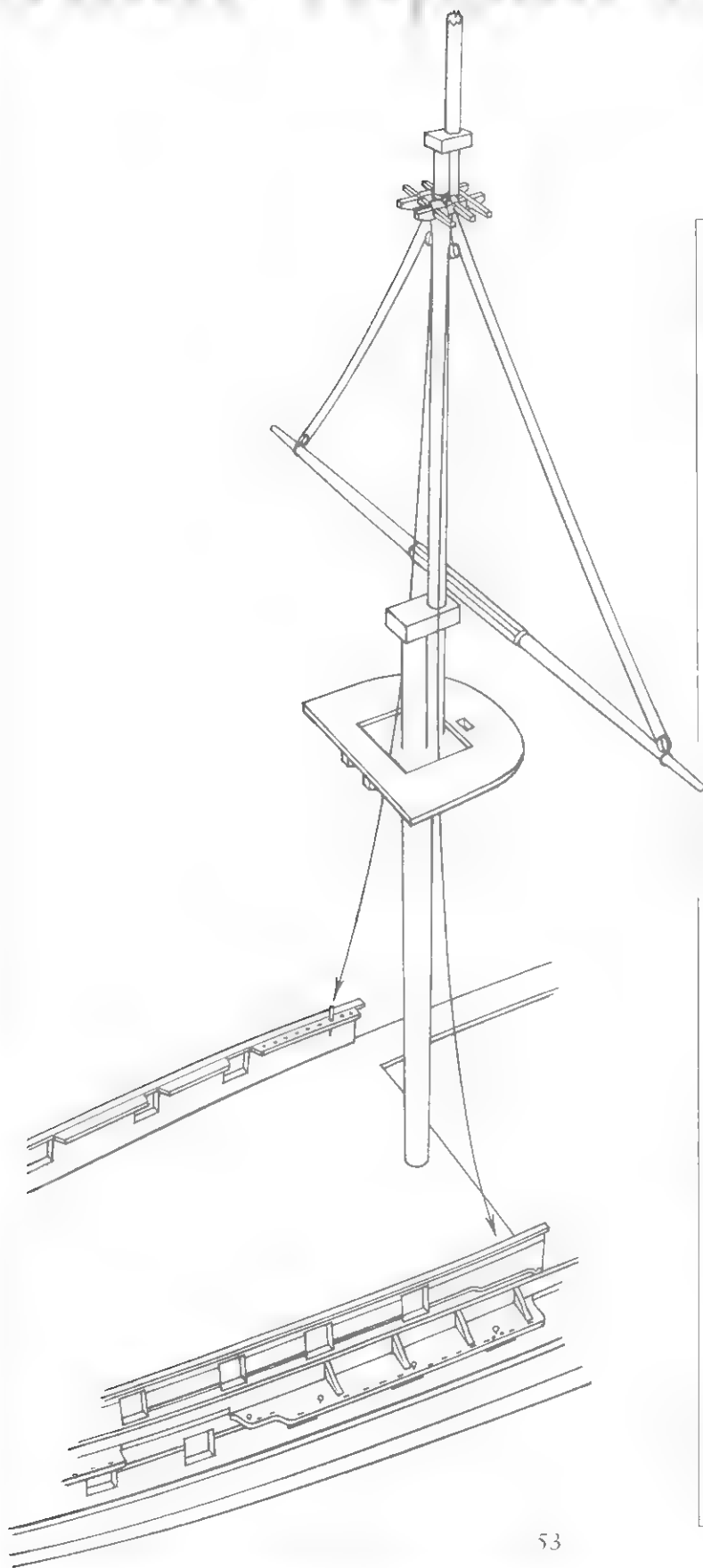
# Main Sheet, Clewline & Tack



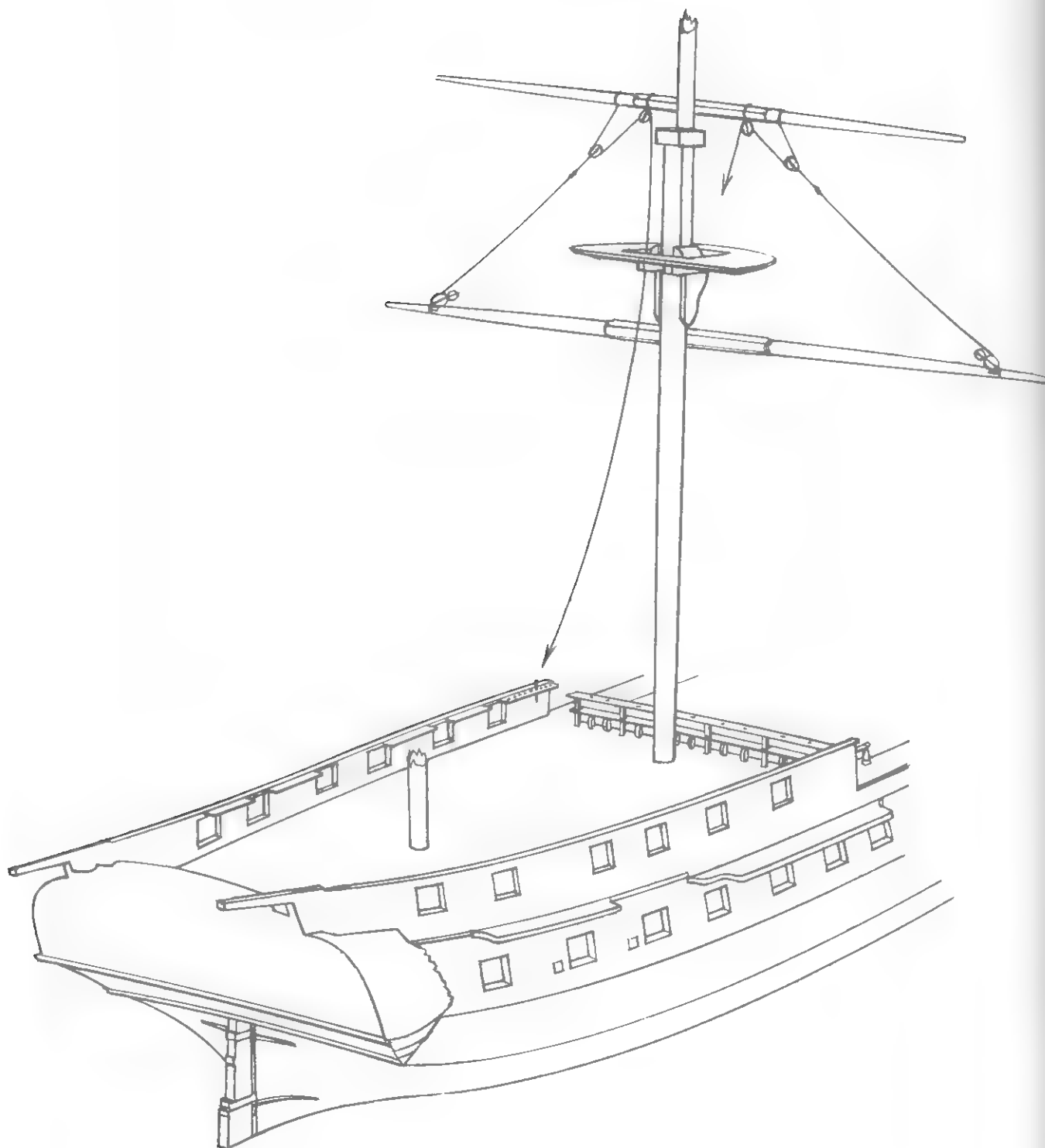
# Main Topsail Sheet



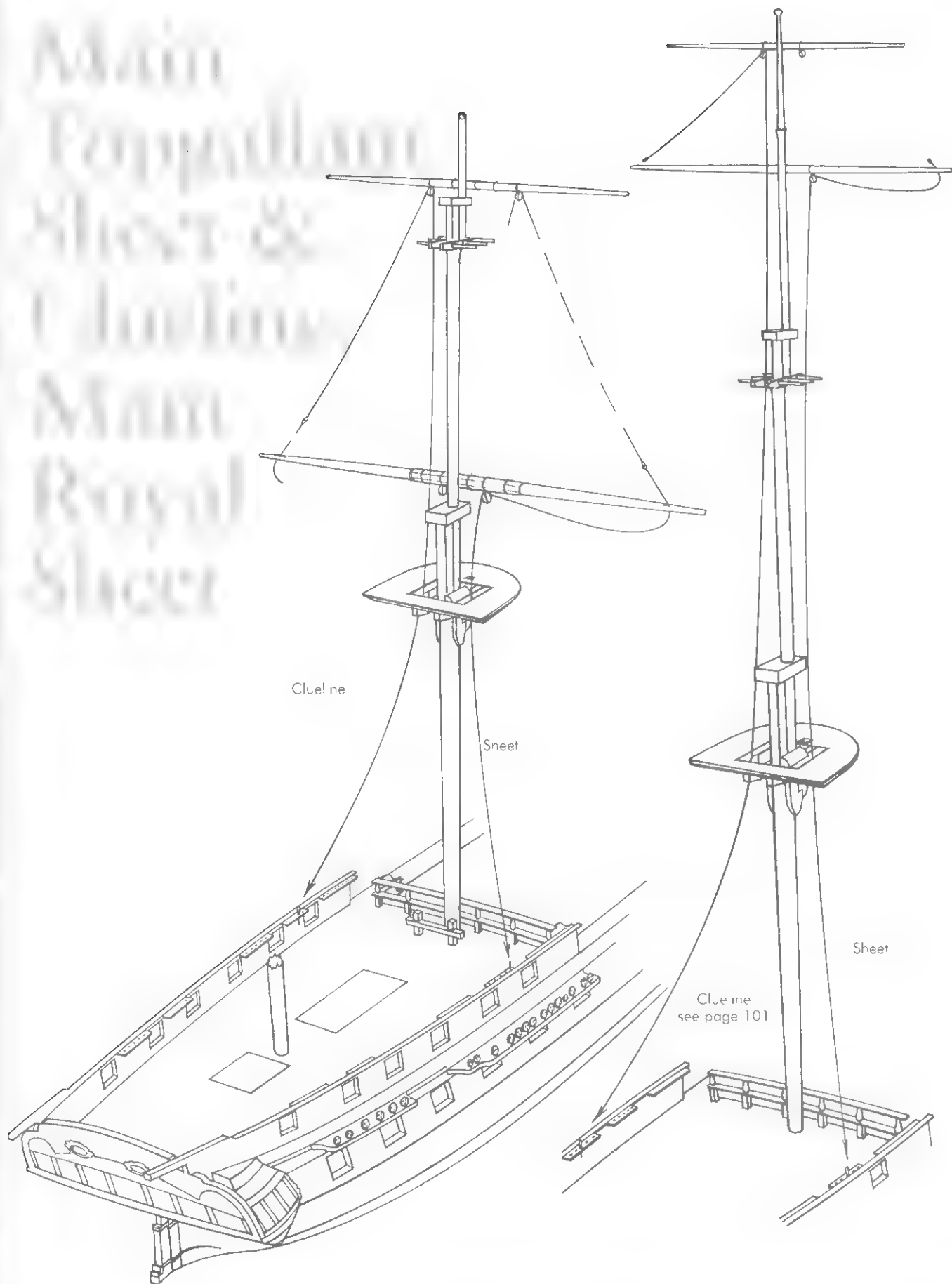
# Main Topmast Loft



# Main Topmast Fluke

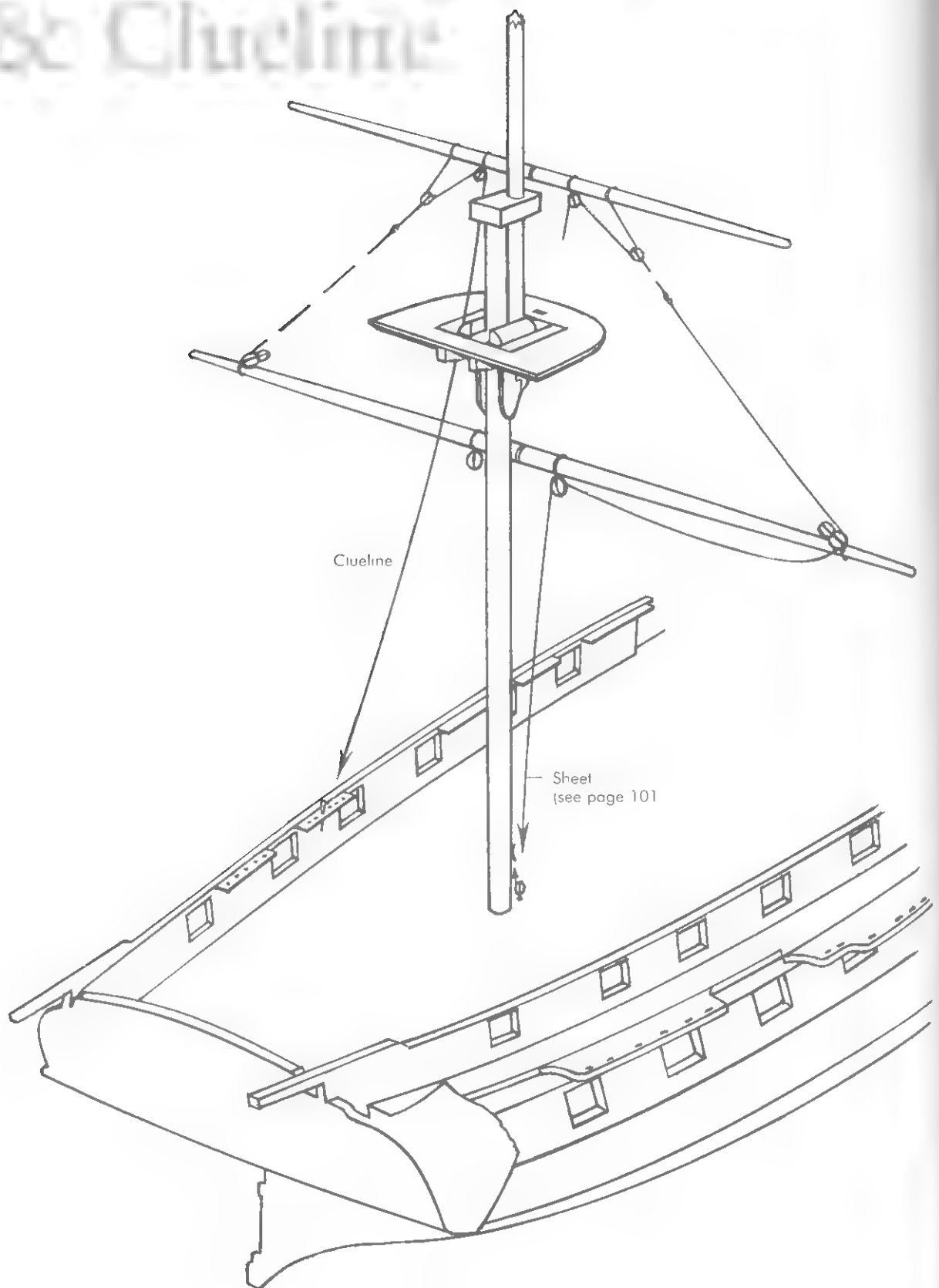


# Main Foremast Sheet & Clewline Main Royal Sheet

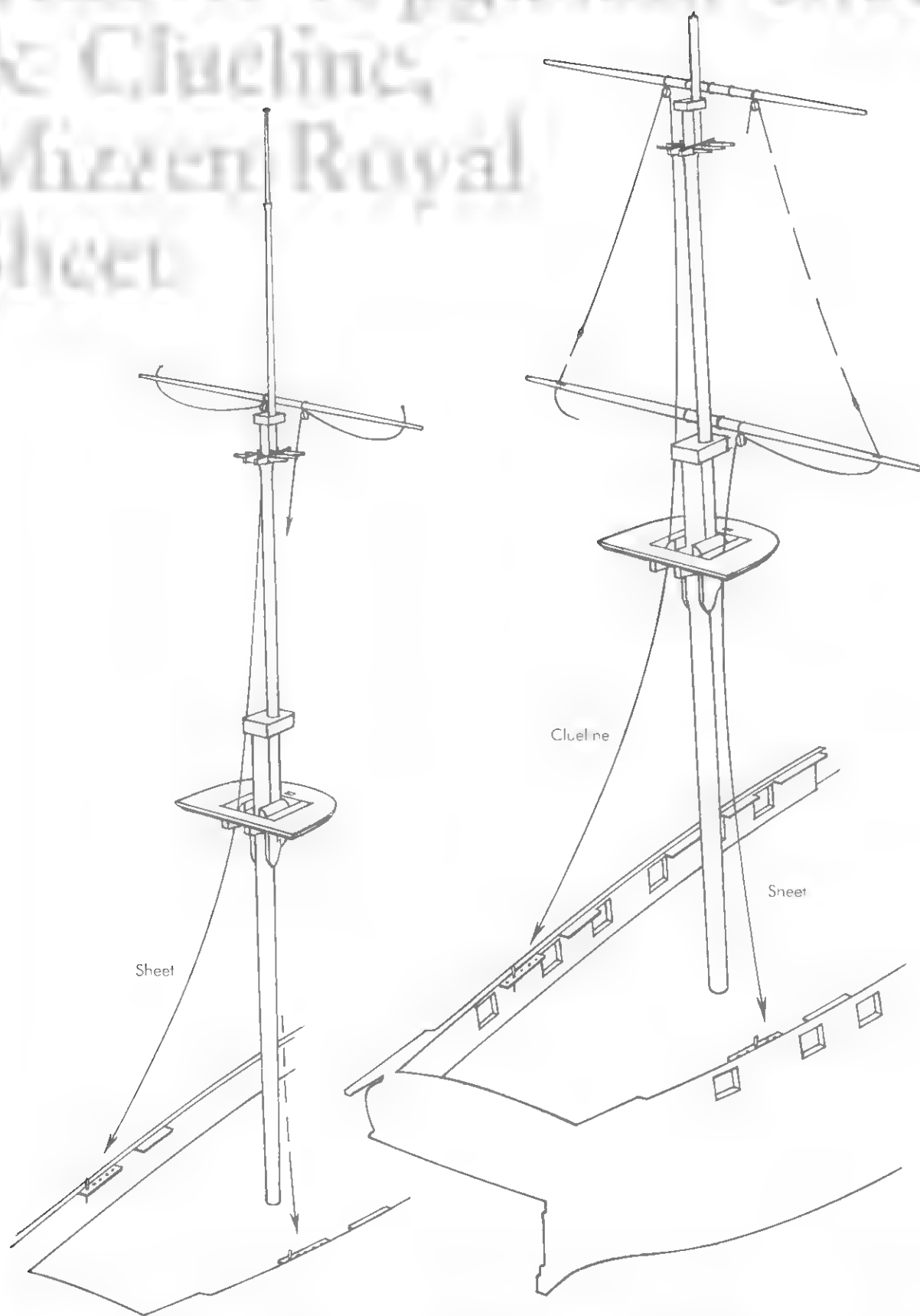




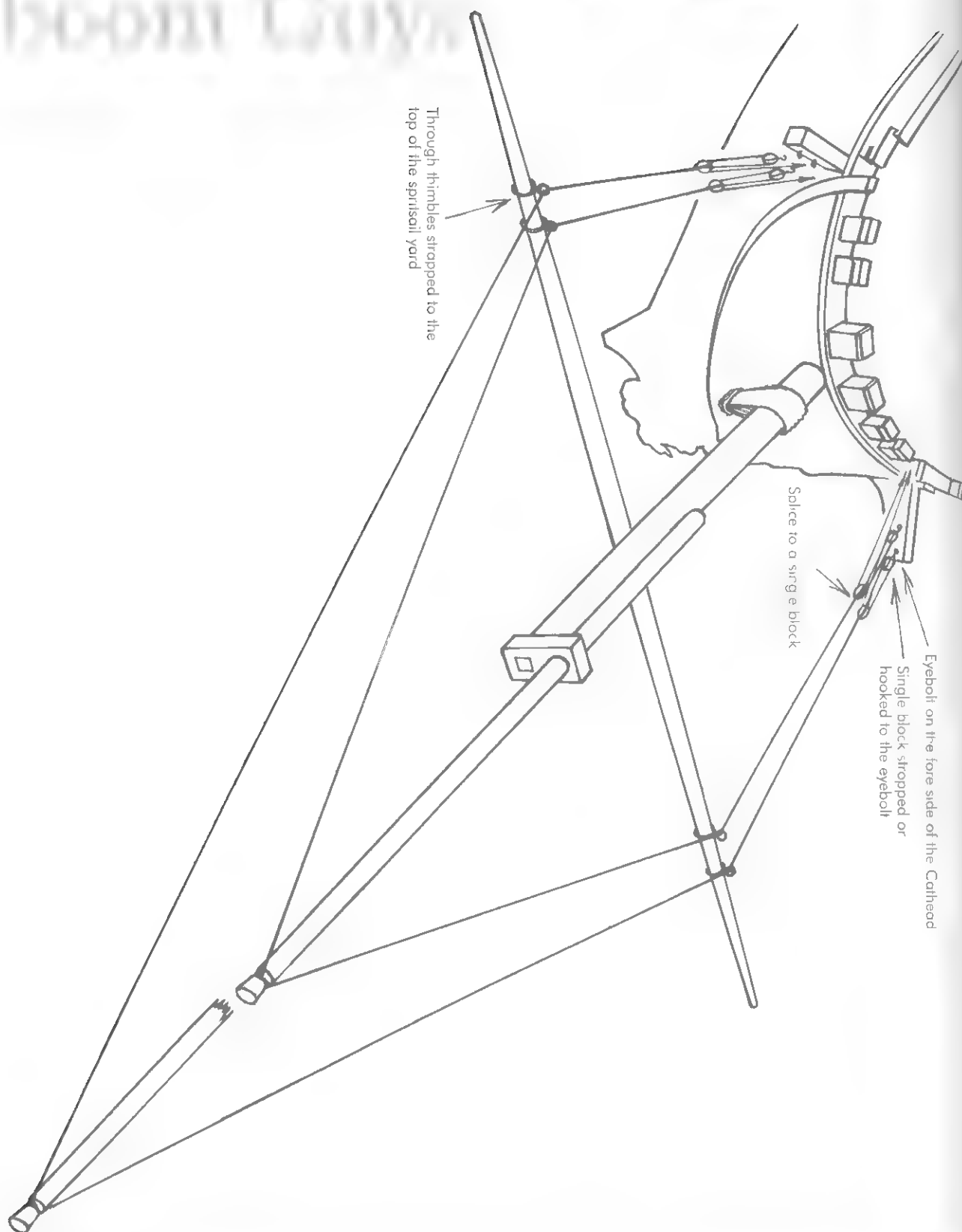
# Mizzen Topsail Sheet & Clue Line



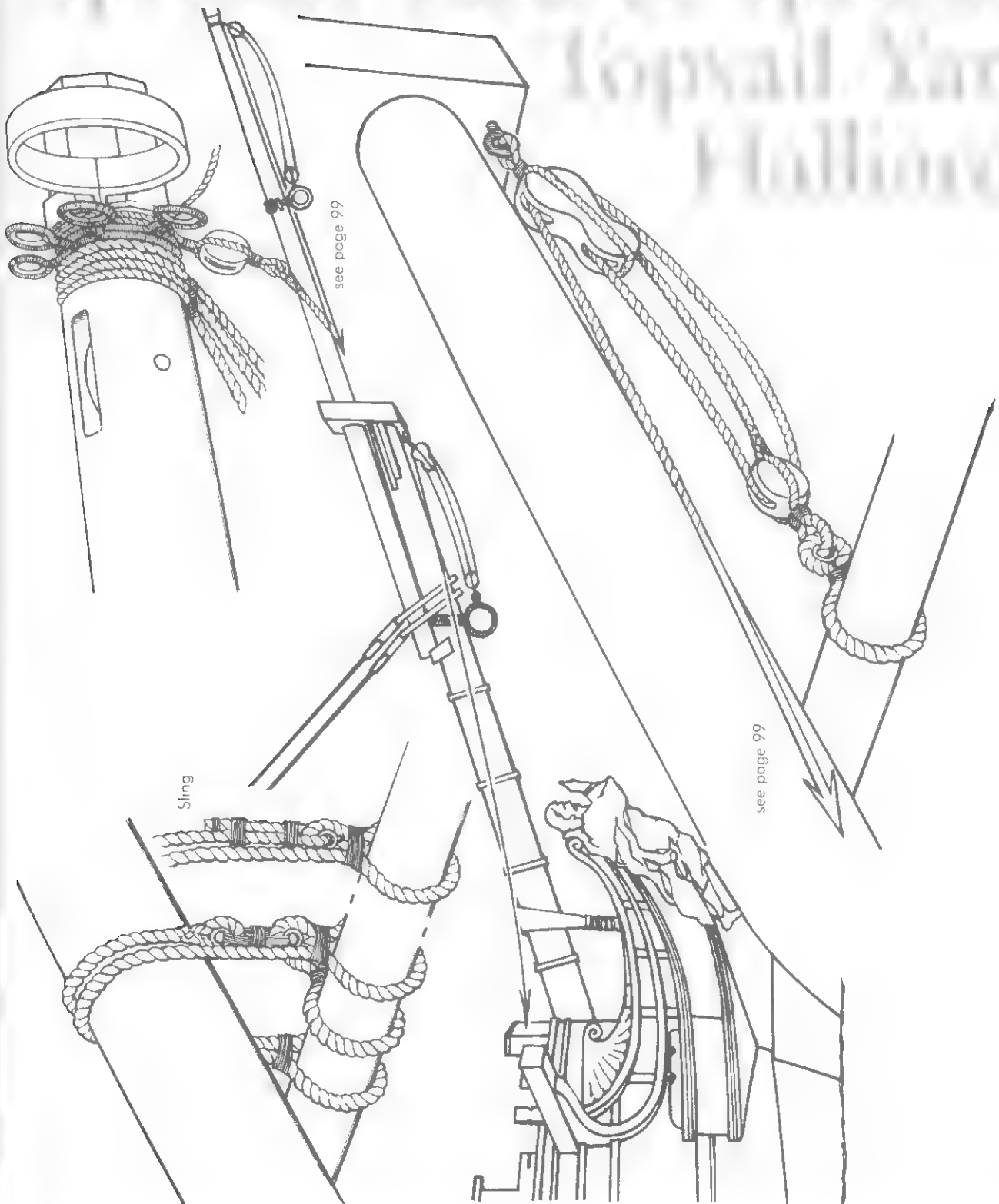
# Mizzen Toppallant Sheet & Clueline, Mizzen Royal Sheet



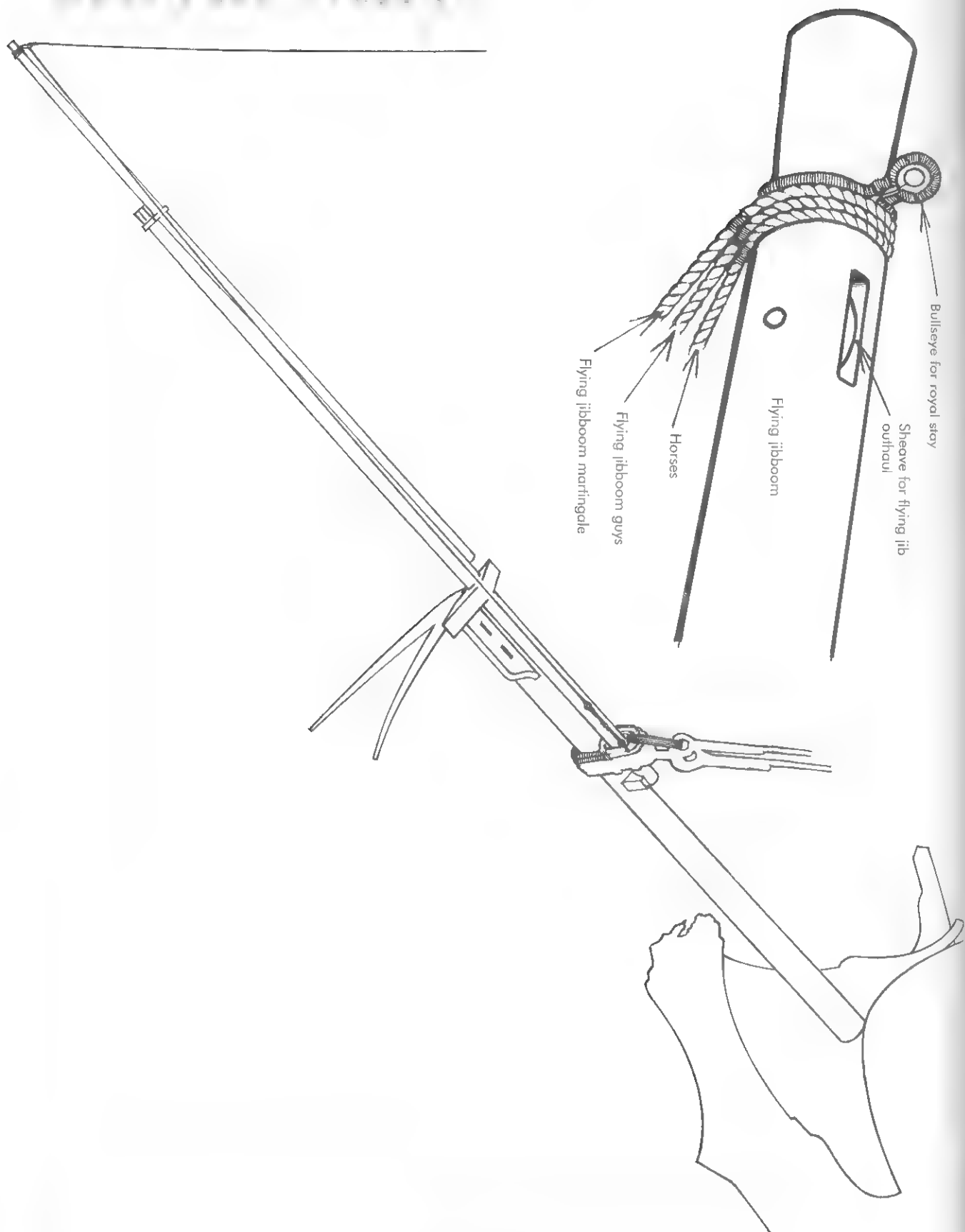
# Jibboom & Flying Jibboom Guys



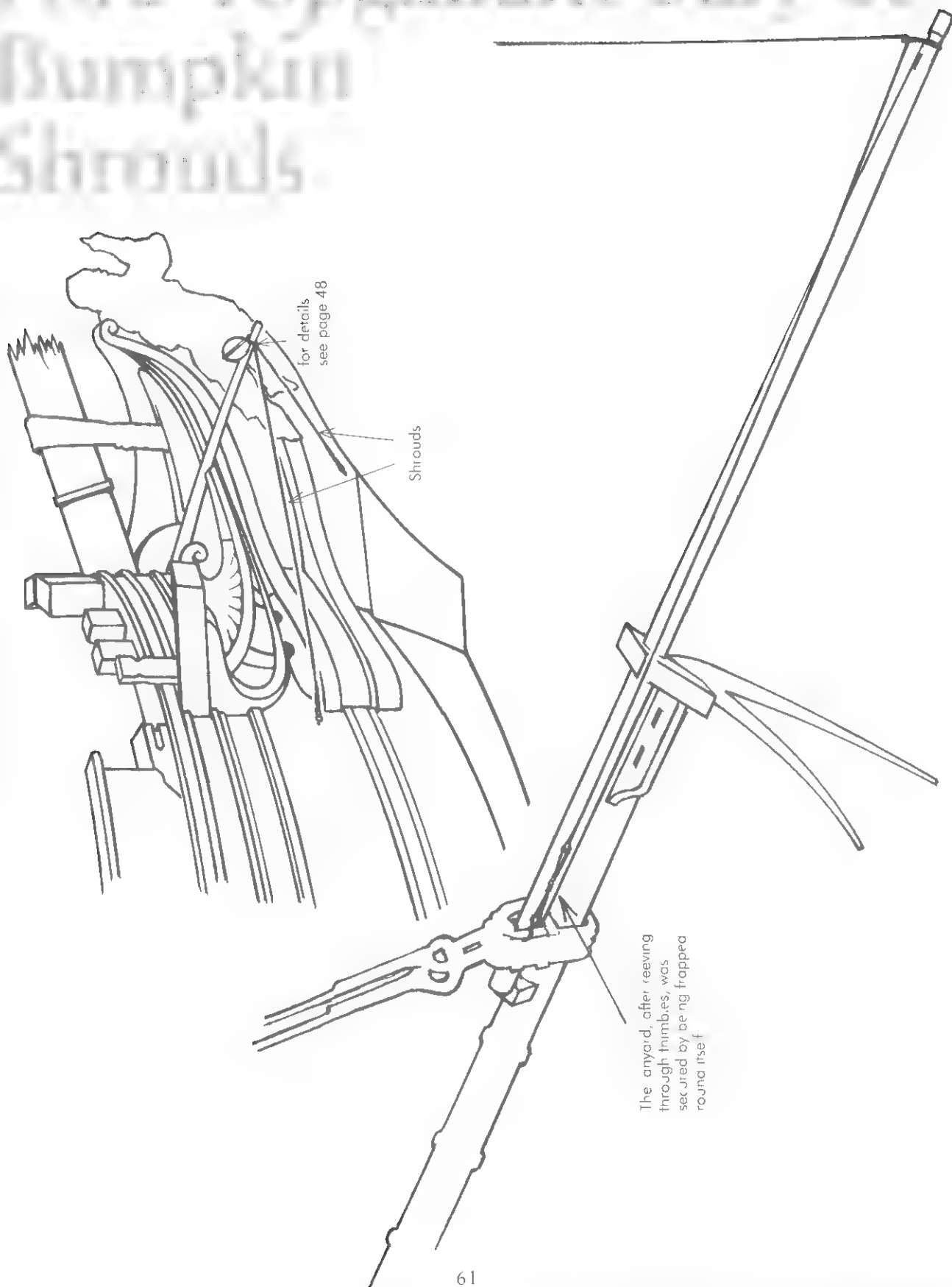
# Topmast Sling, Sprawl Yard & Sprawl Topmast Yard Hulliards

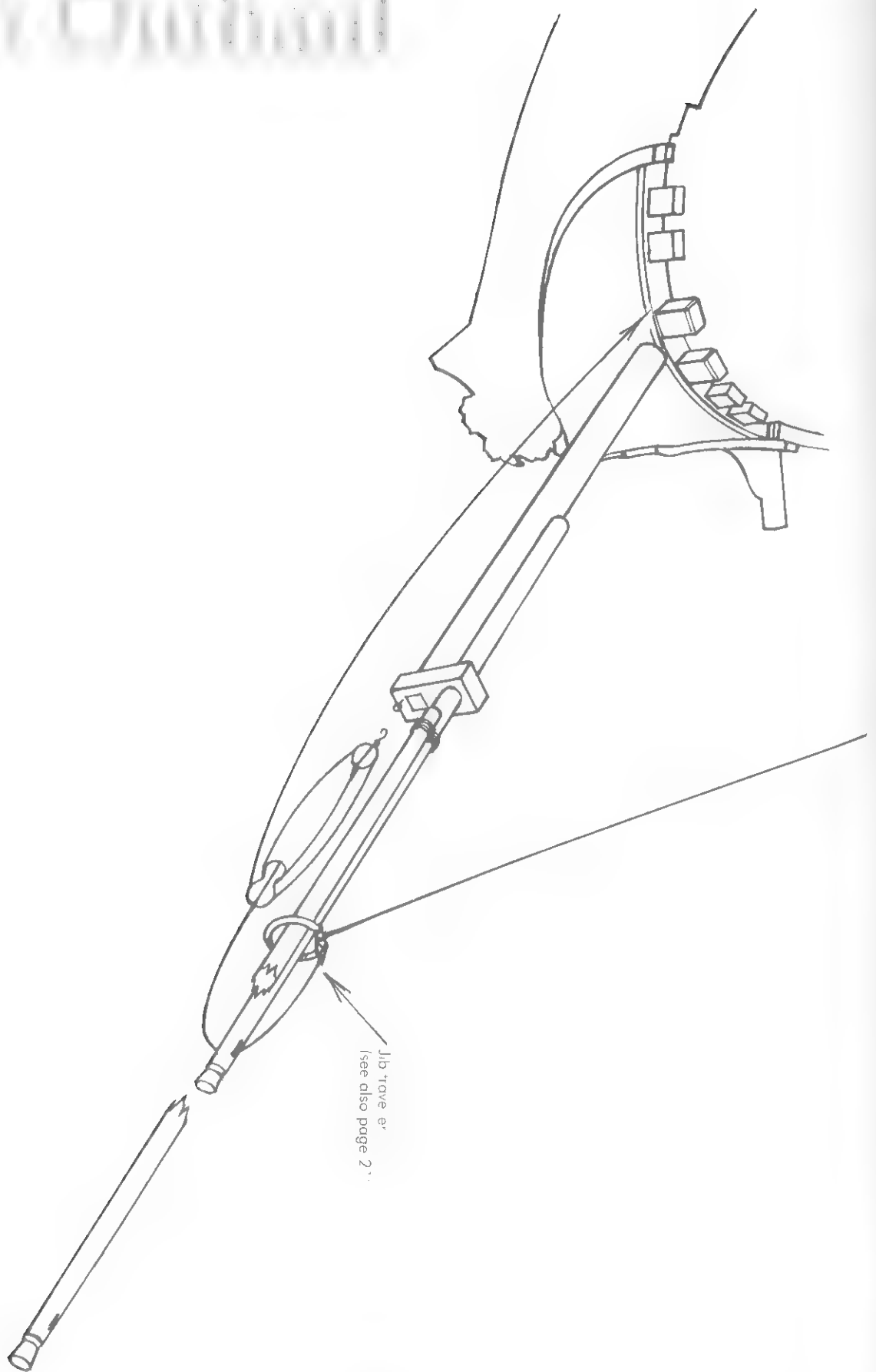


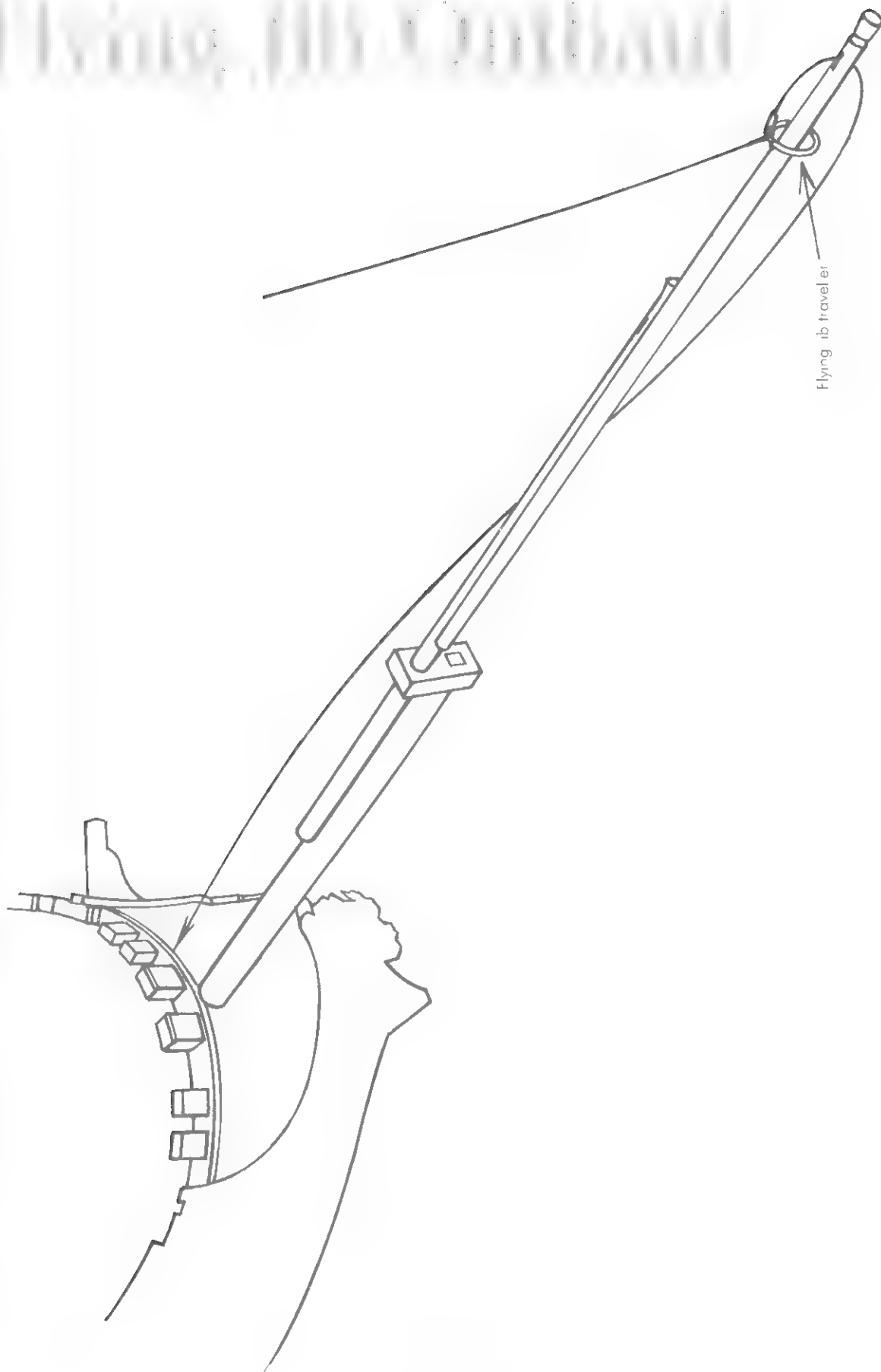
# Royal Stay



# Fore Toppallant Stay & Bumpkin Shrouds







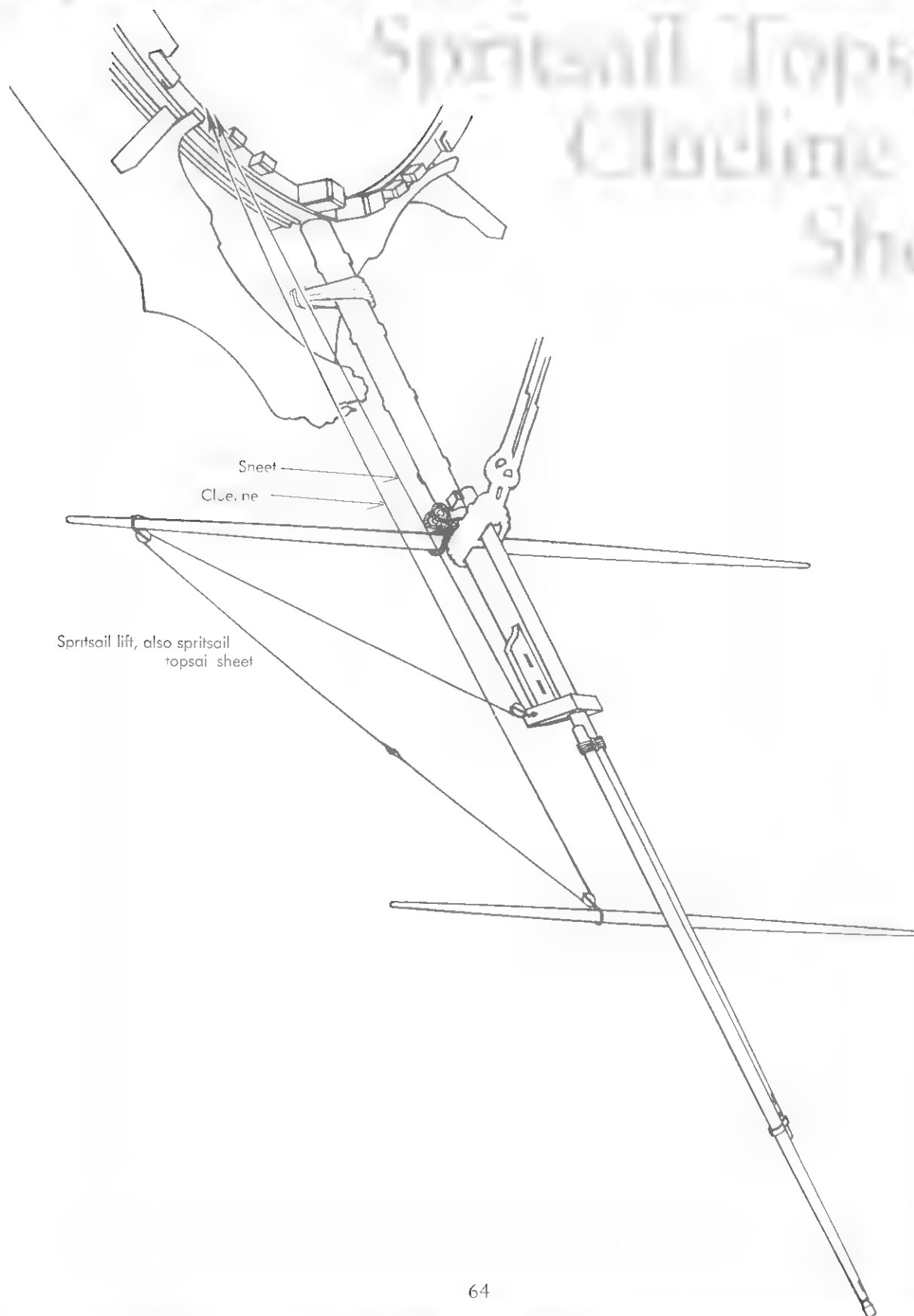


# Spritsail Lift

## Spritsail Top Sail

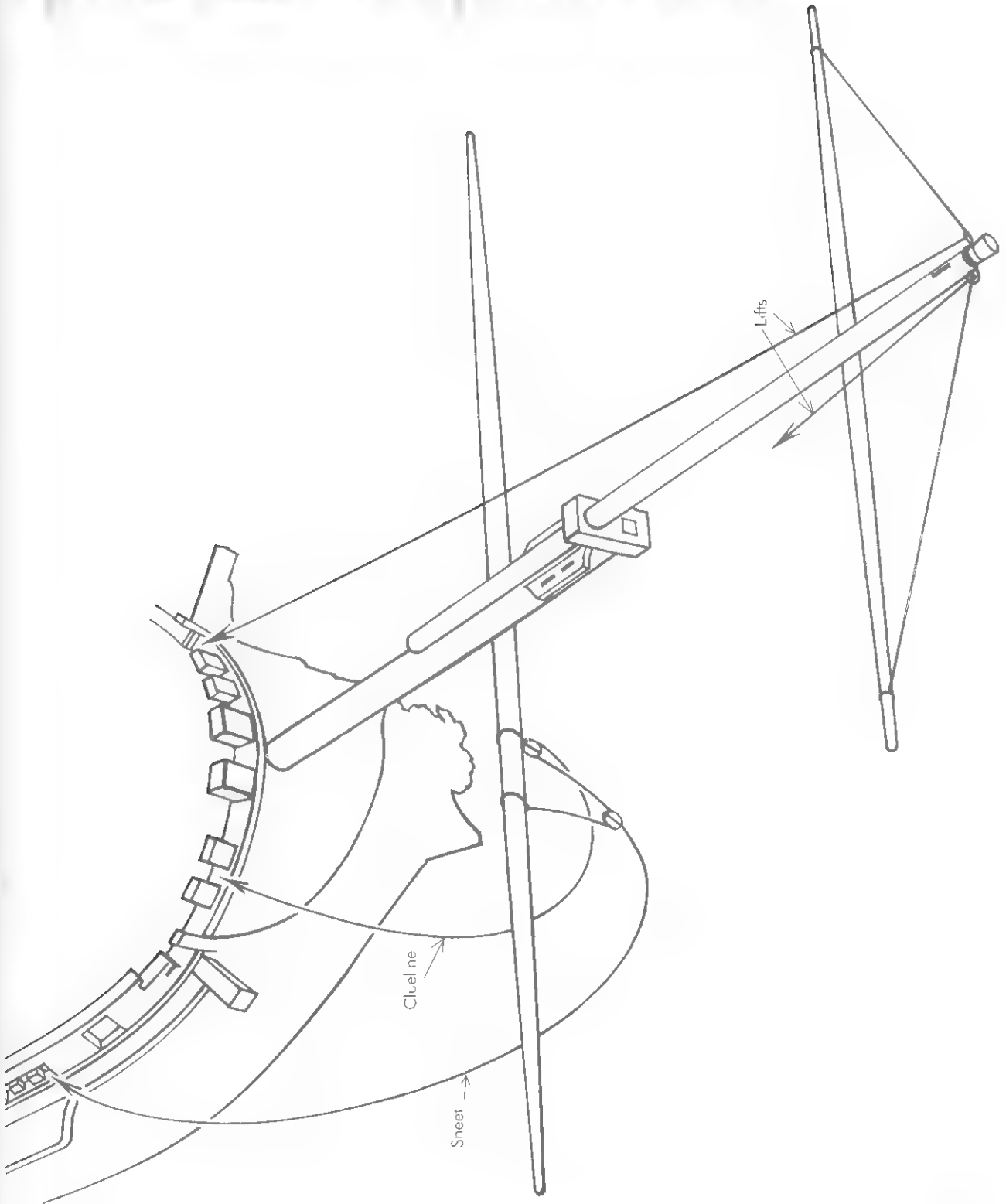
### Clue Line &

### Sheet

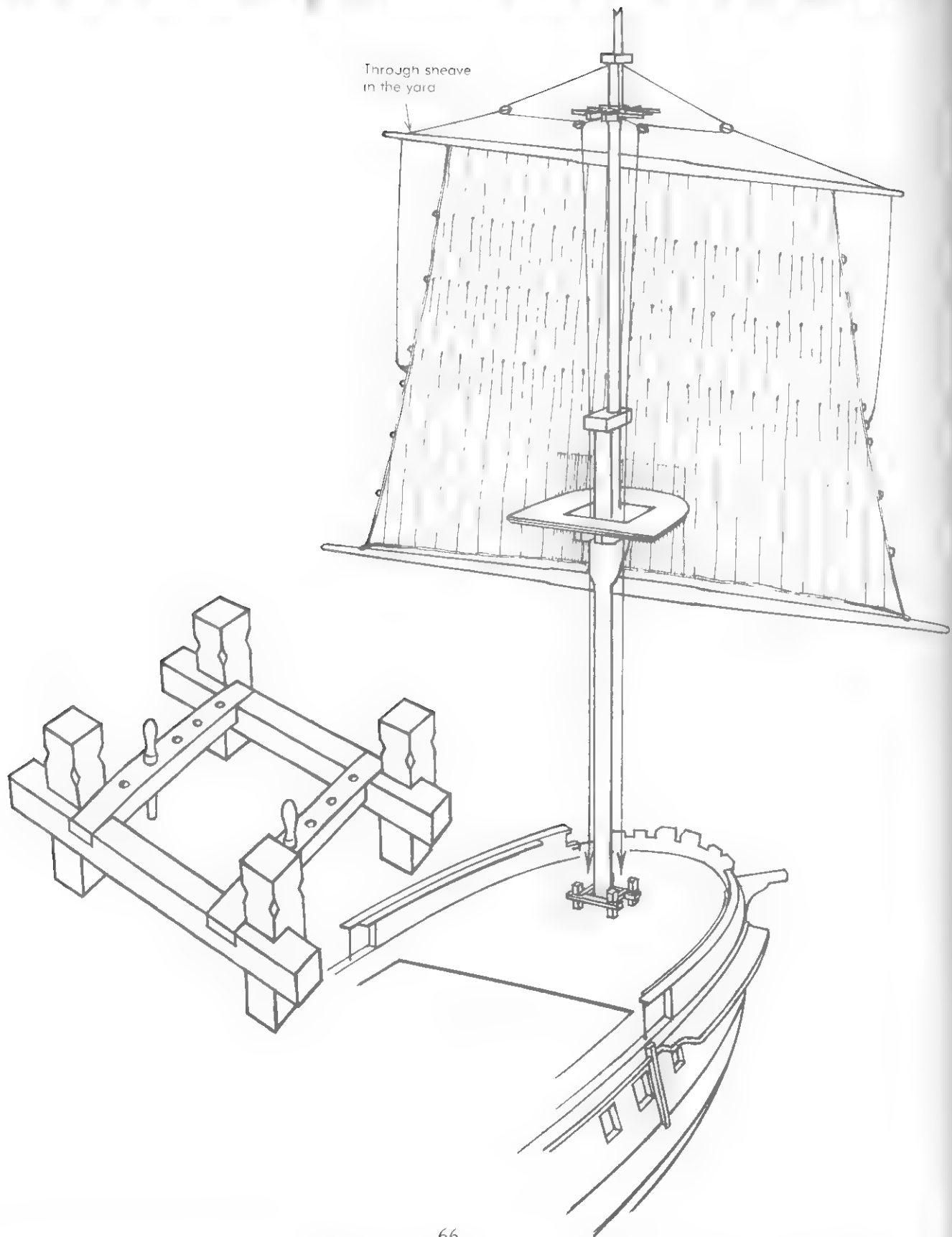


# Spritsail Chubline & Sheet

## Spritsail Topsail Life



# Fore Topgall Reef Tackle

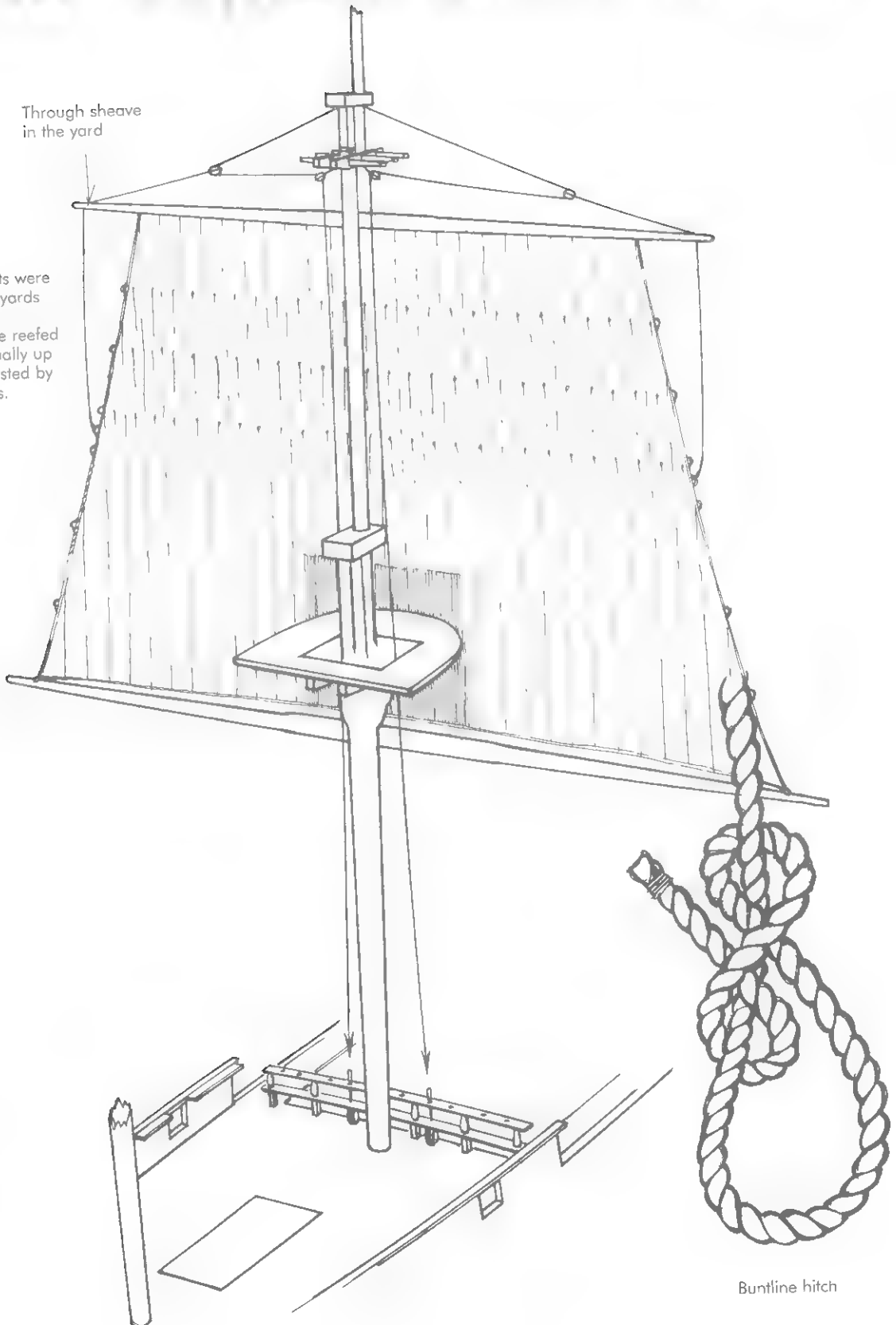


Note  
Reef tackle  
not carried  
until the  
century  
by hauling  
to the yard  
hauling

# Main Topgall Reef Tackle

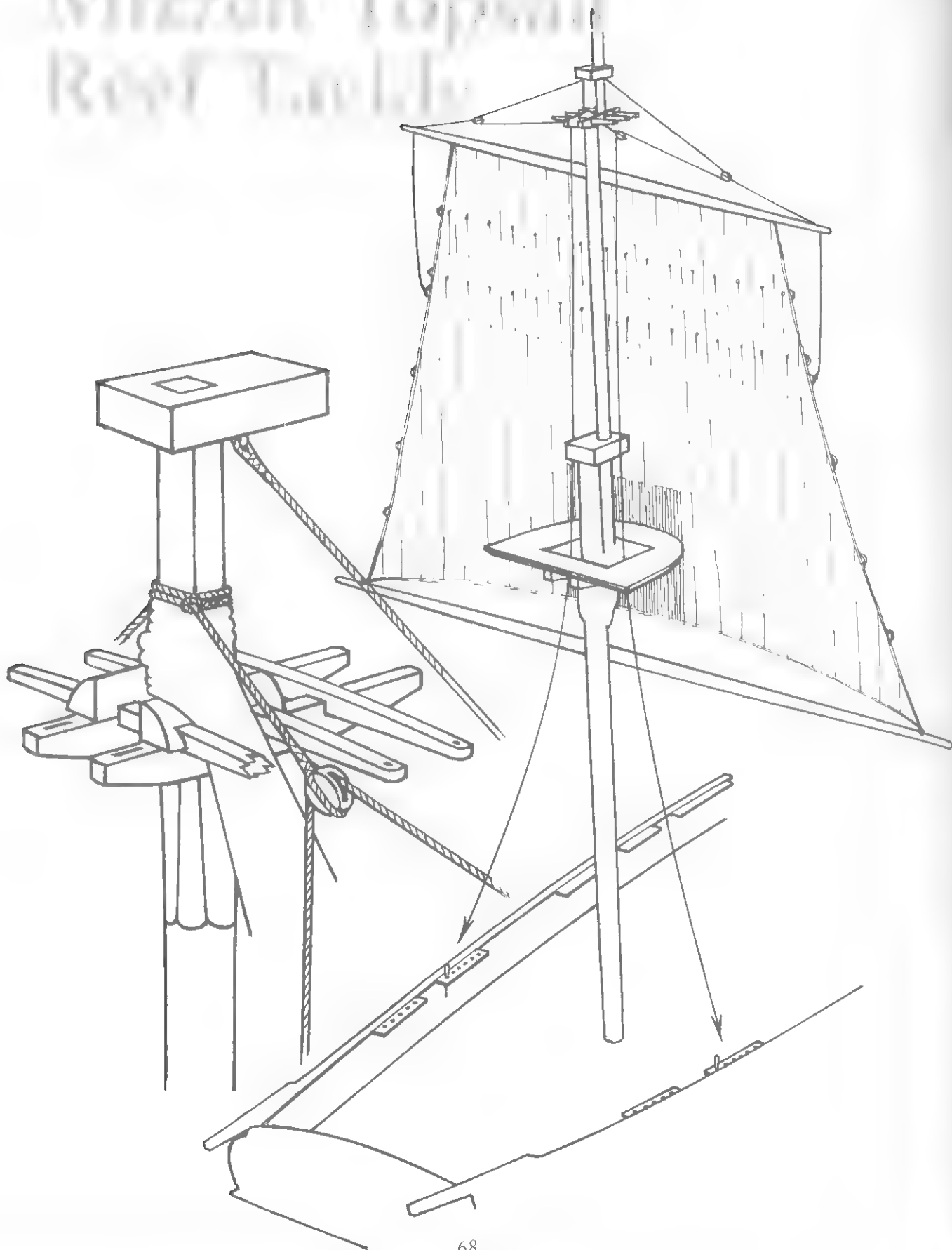
Through sheave  
in the yard

Note  
Reef tackles and pendants were  
not carried on the lower yards  
until the early nineteenth  
century. The courses were reefed  
by hauling the sail manually up  
to the yard, possibly assisted by  
hauling on the leechlines.

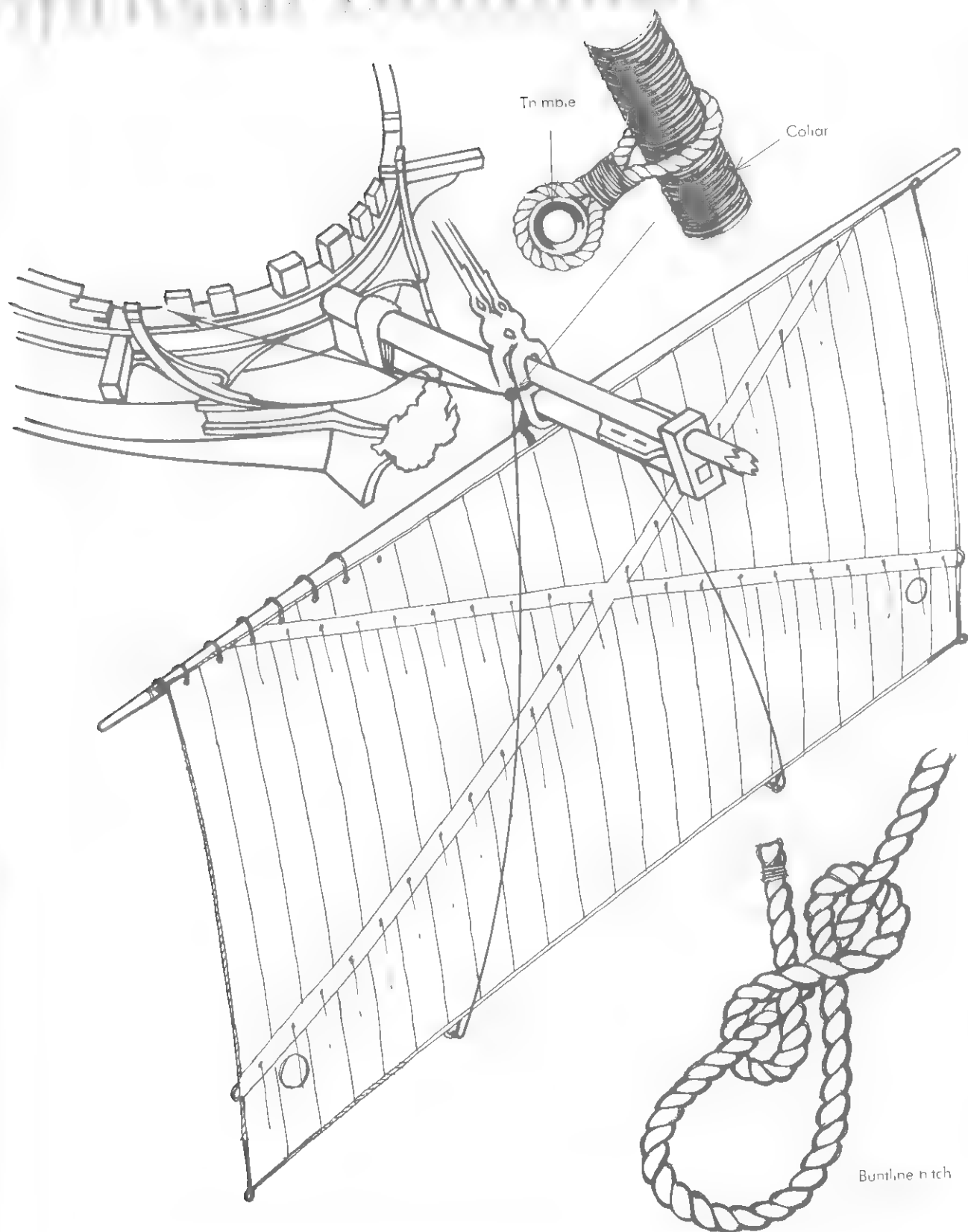


Buntline hitch

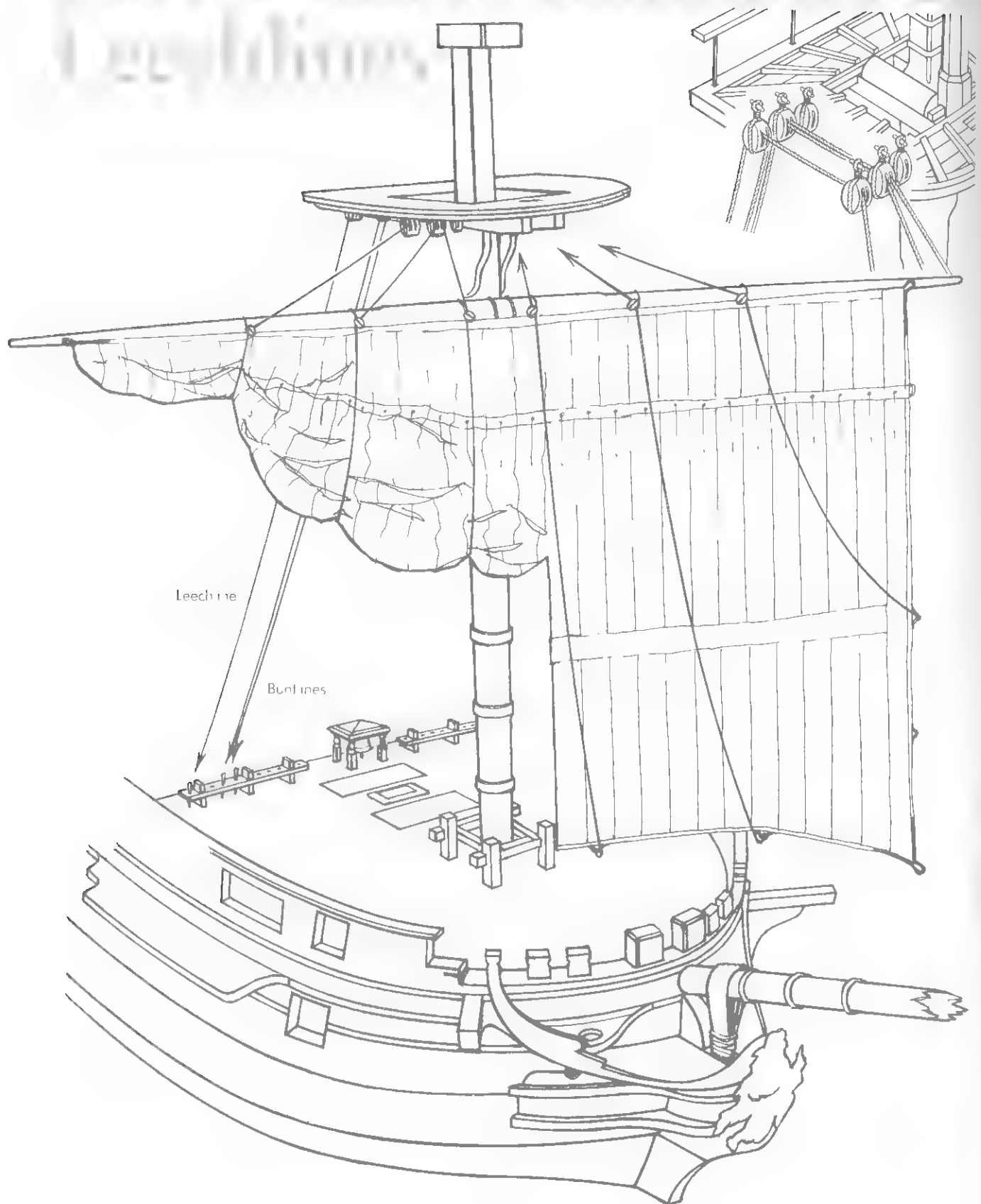
# Mizzen Topmast Reef Tackle



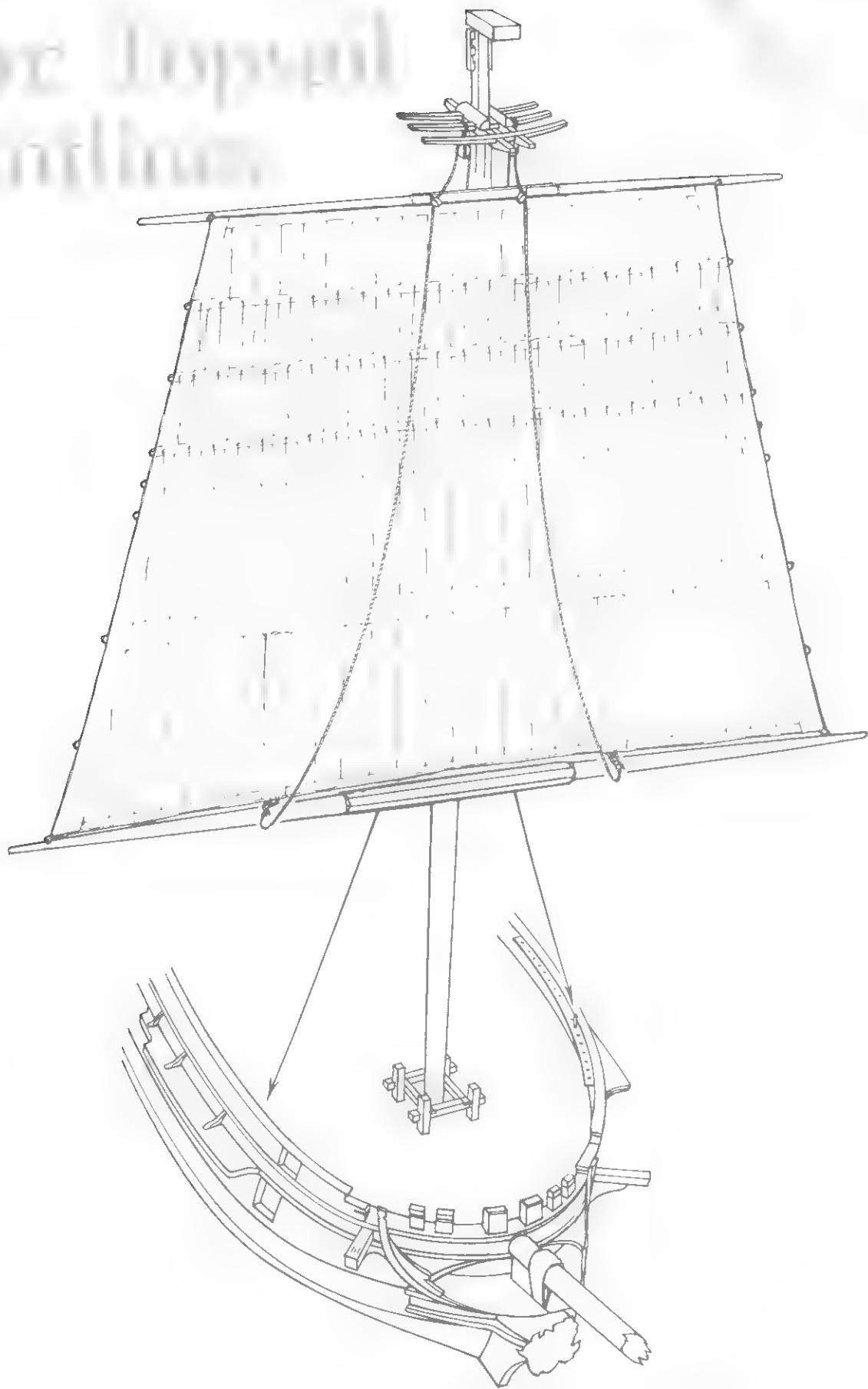
# Spitgill Buntlines



# Fore-Castle Mastlines & Rigging

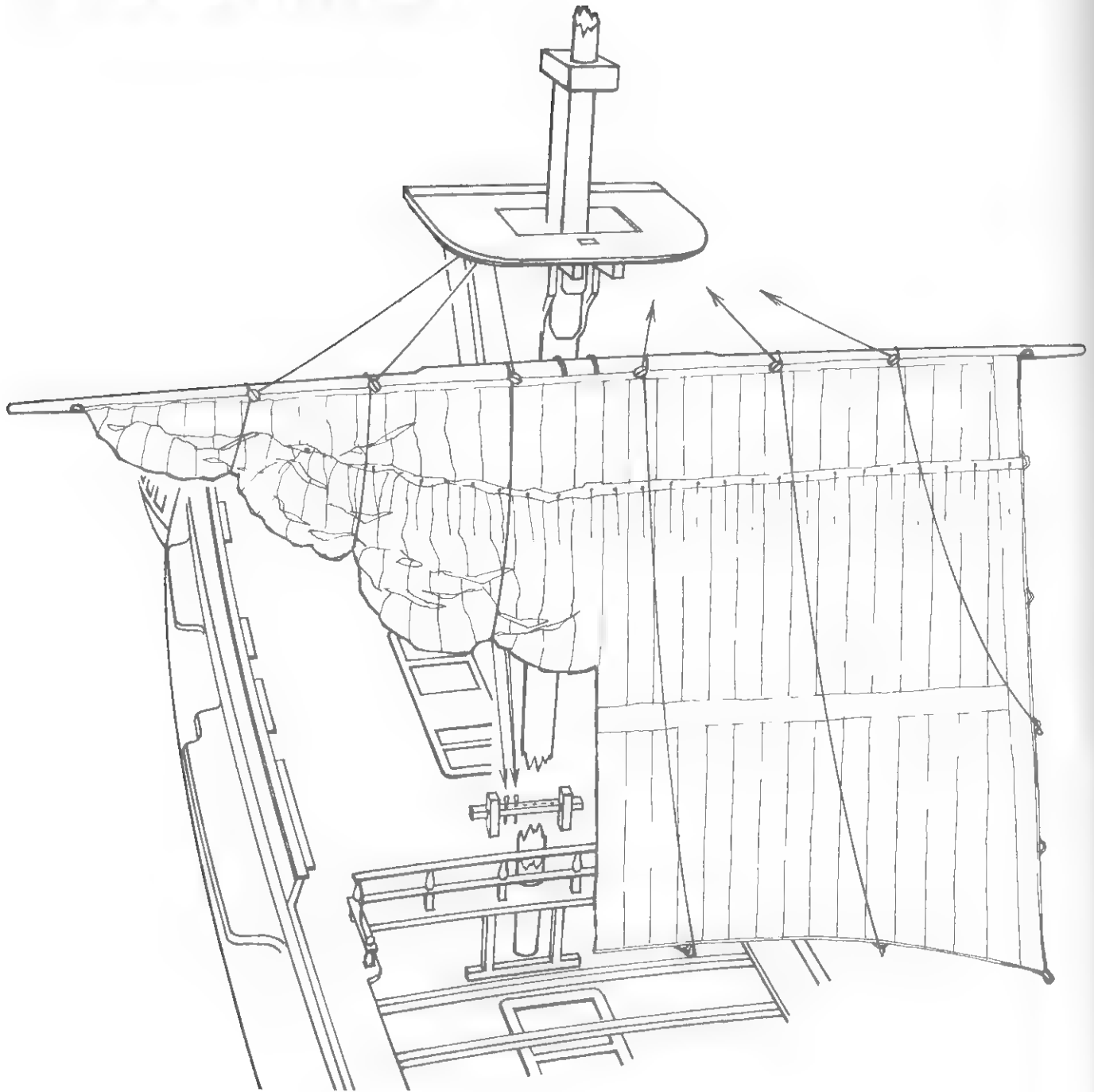


# How to Build Dredges

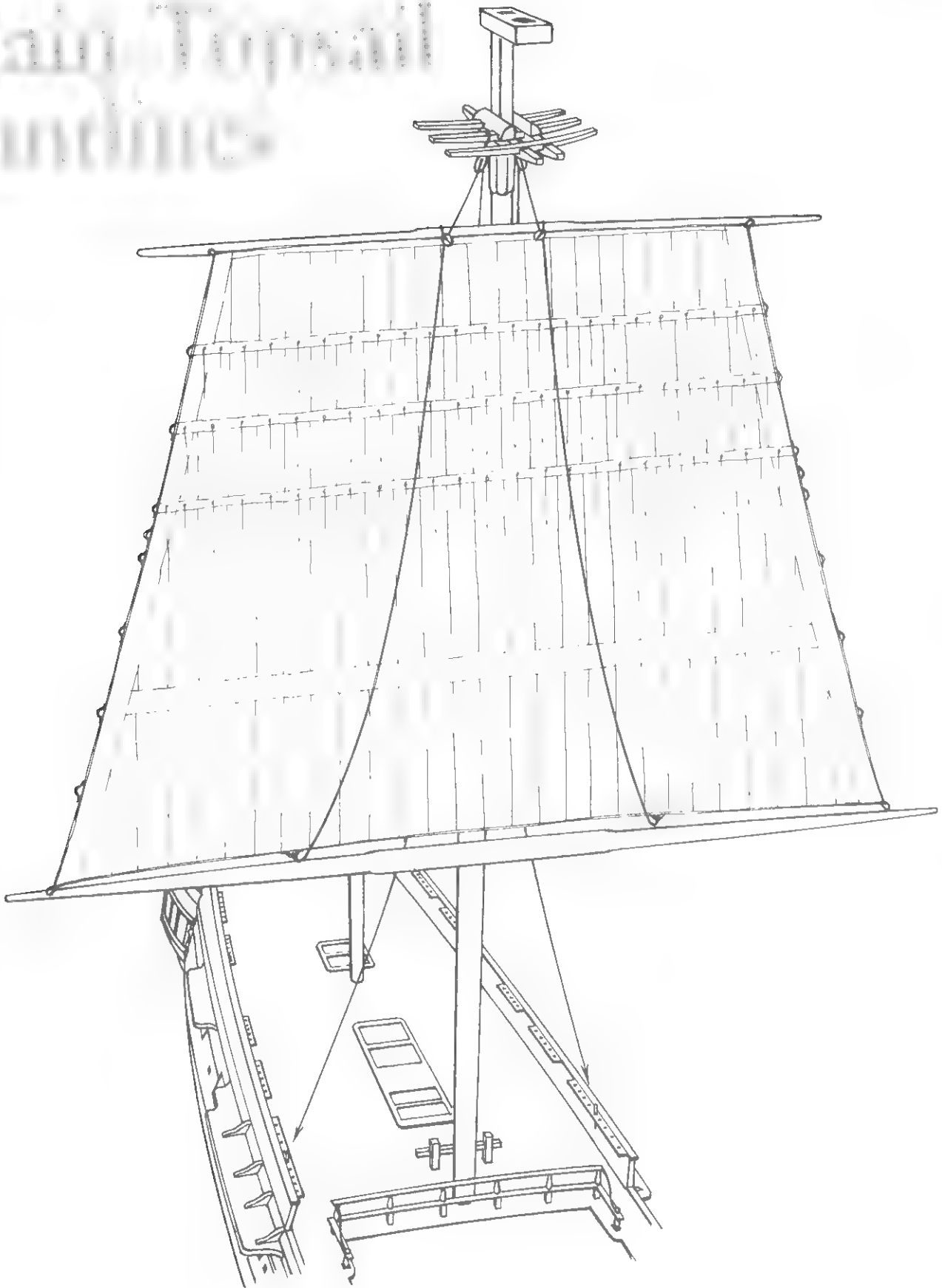




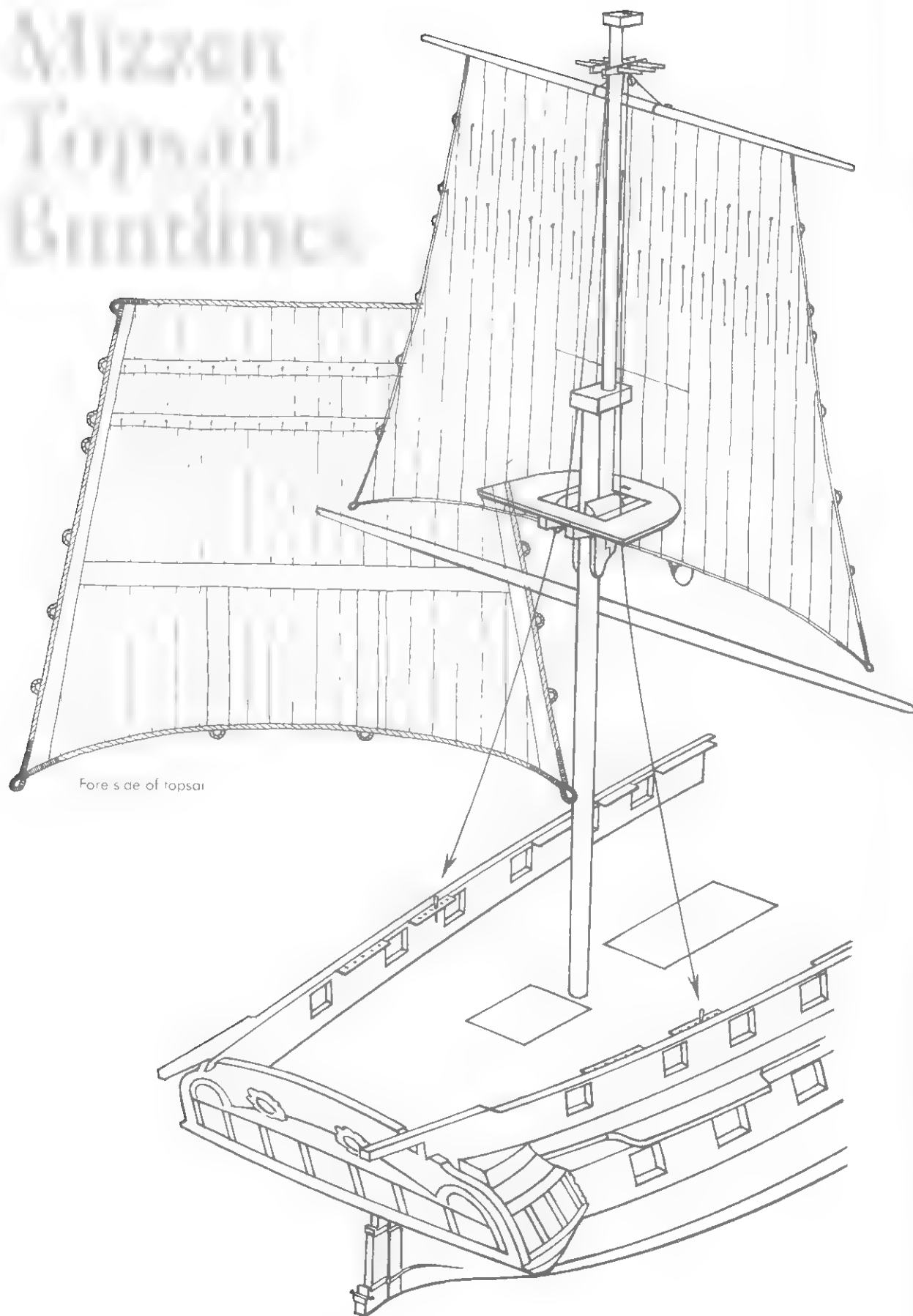
# Main Course Hauling & Leechlines



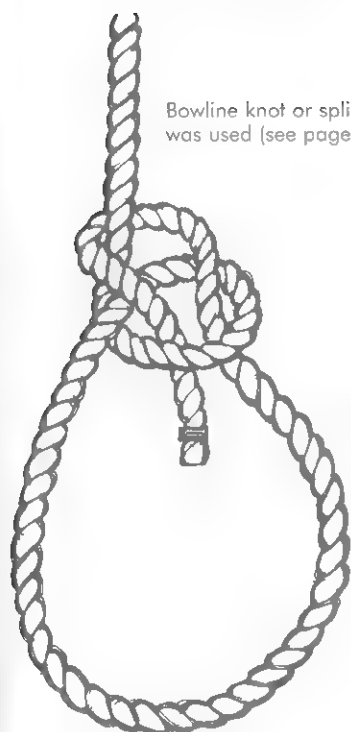
# Main Topail Buntline



# Mizzen Topsail Buntlines



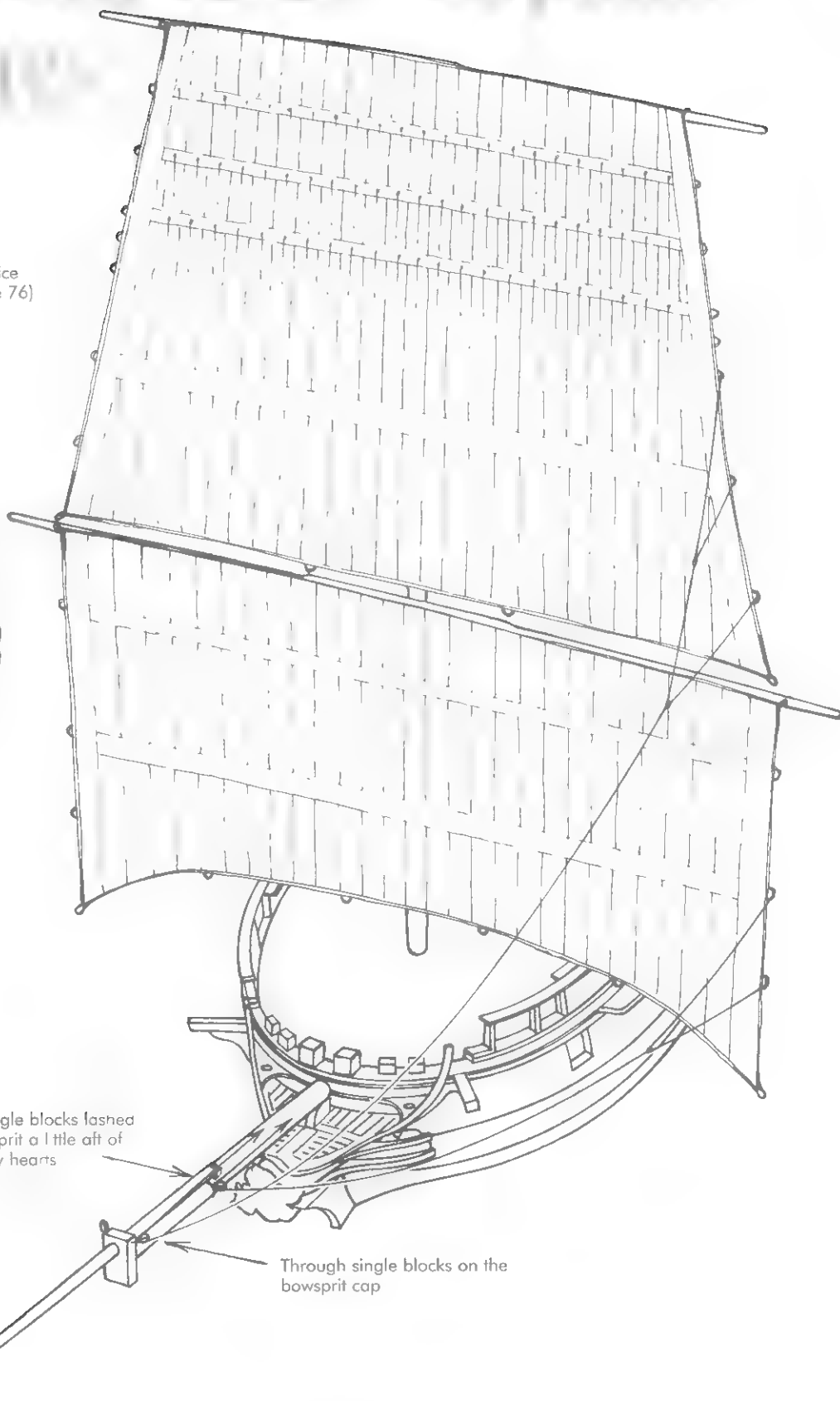
# Fore Course & Topmast Bowlines



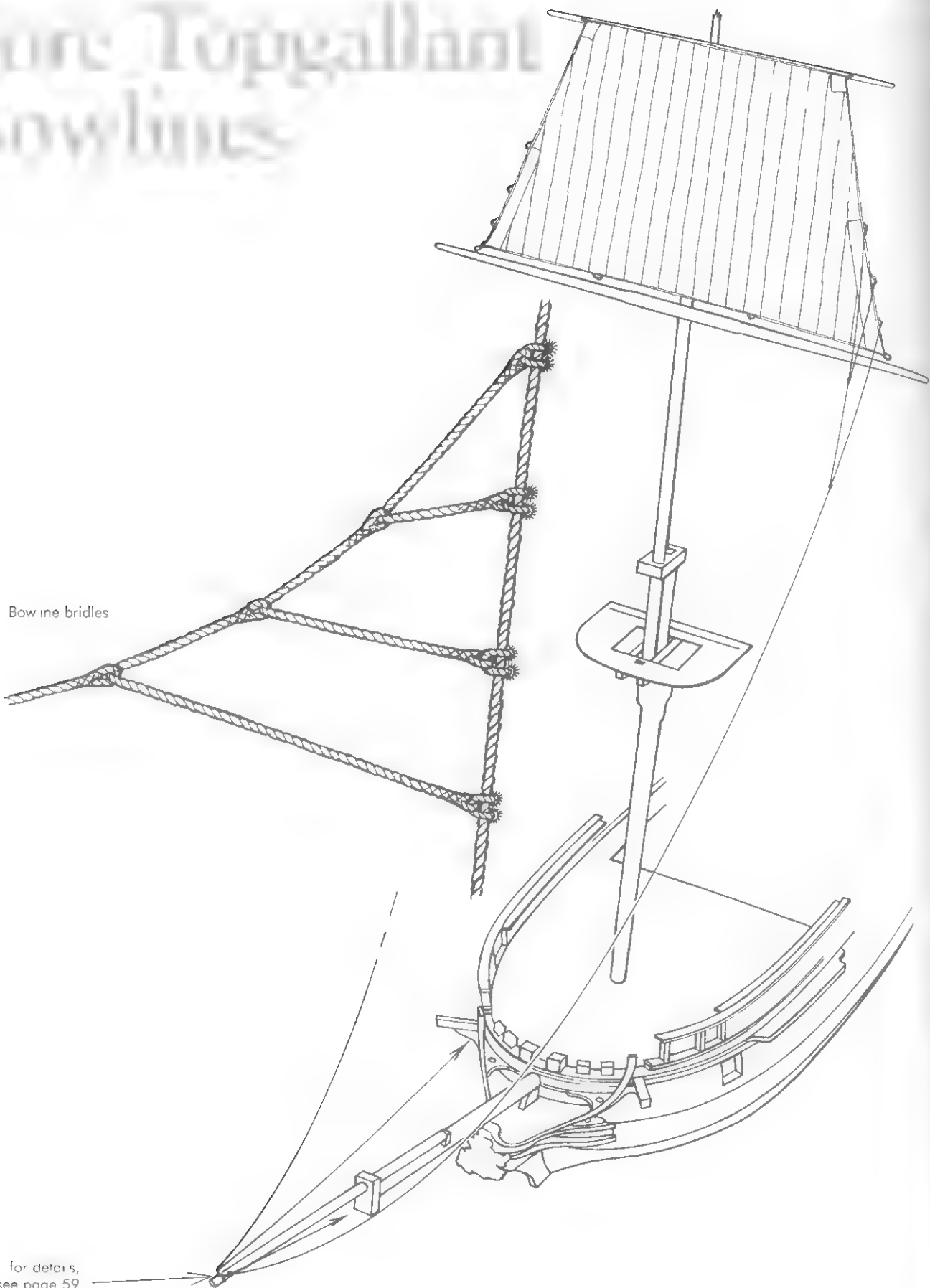
Bowline knot or splice  
was used (see page 76)

Through single blocks fashed  
to the bowsprit a little aft of  
the fore stay hearts

Through single blocks on the  
bowsprit cap

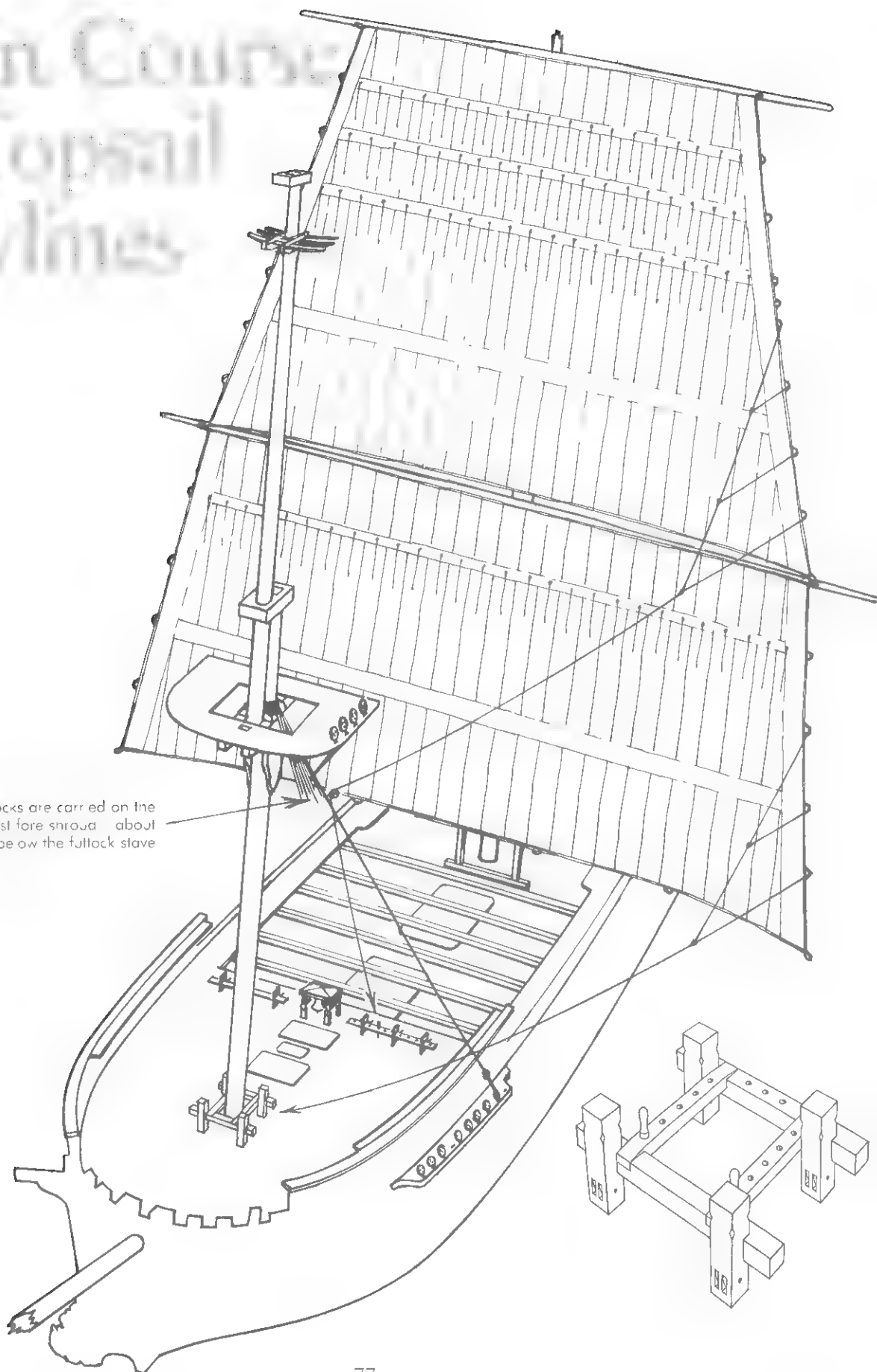


# Fore Toppallant Bowlines

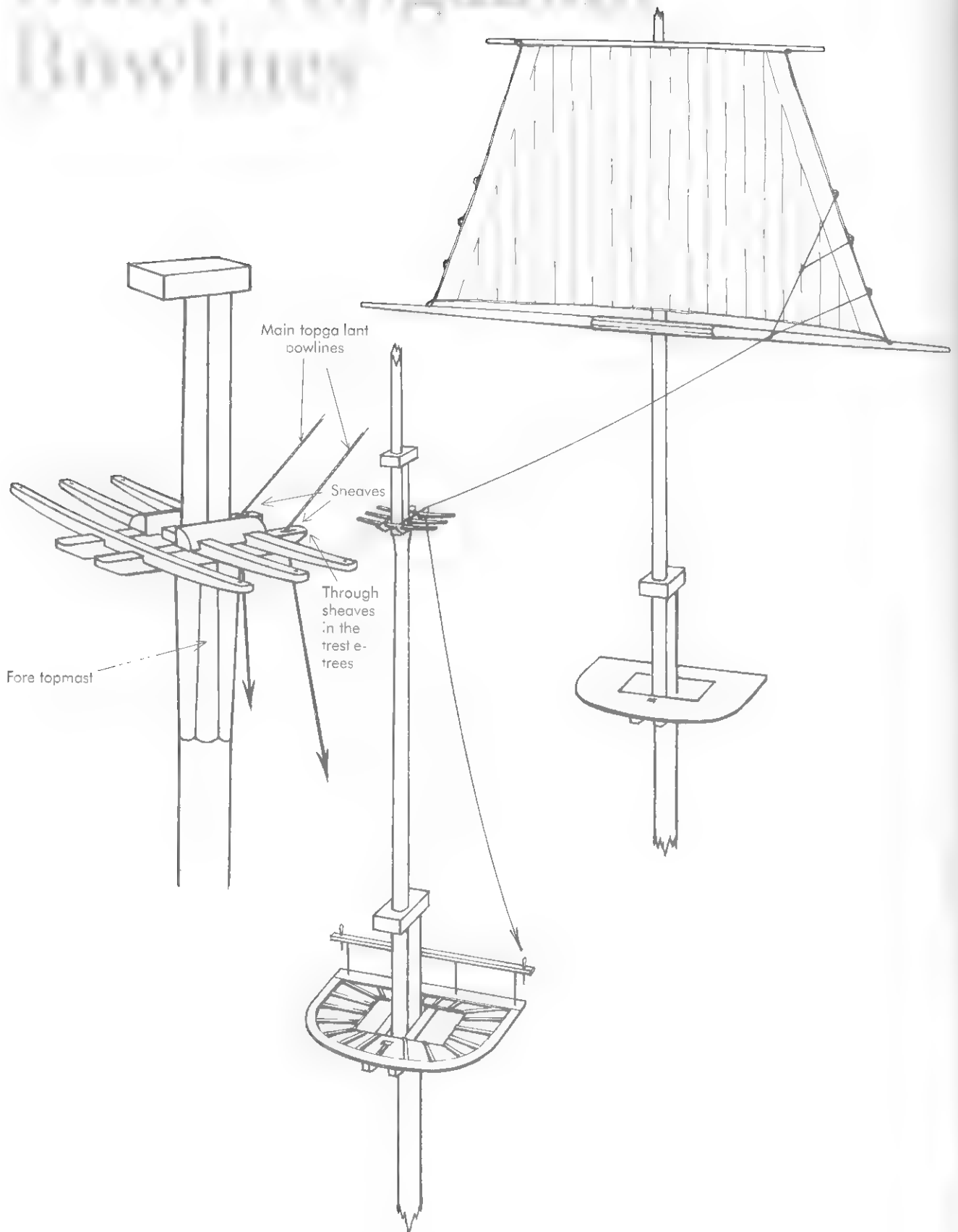


# Main Course & Topsail Bowlines

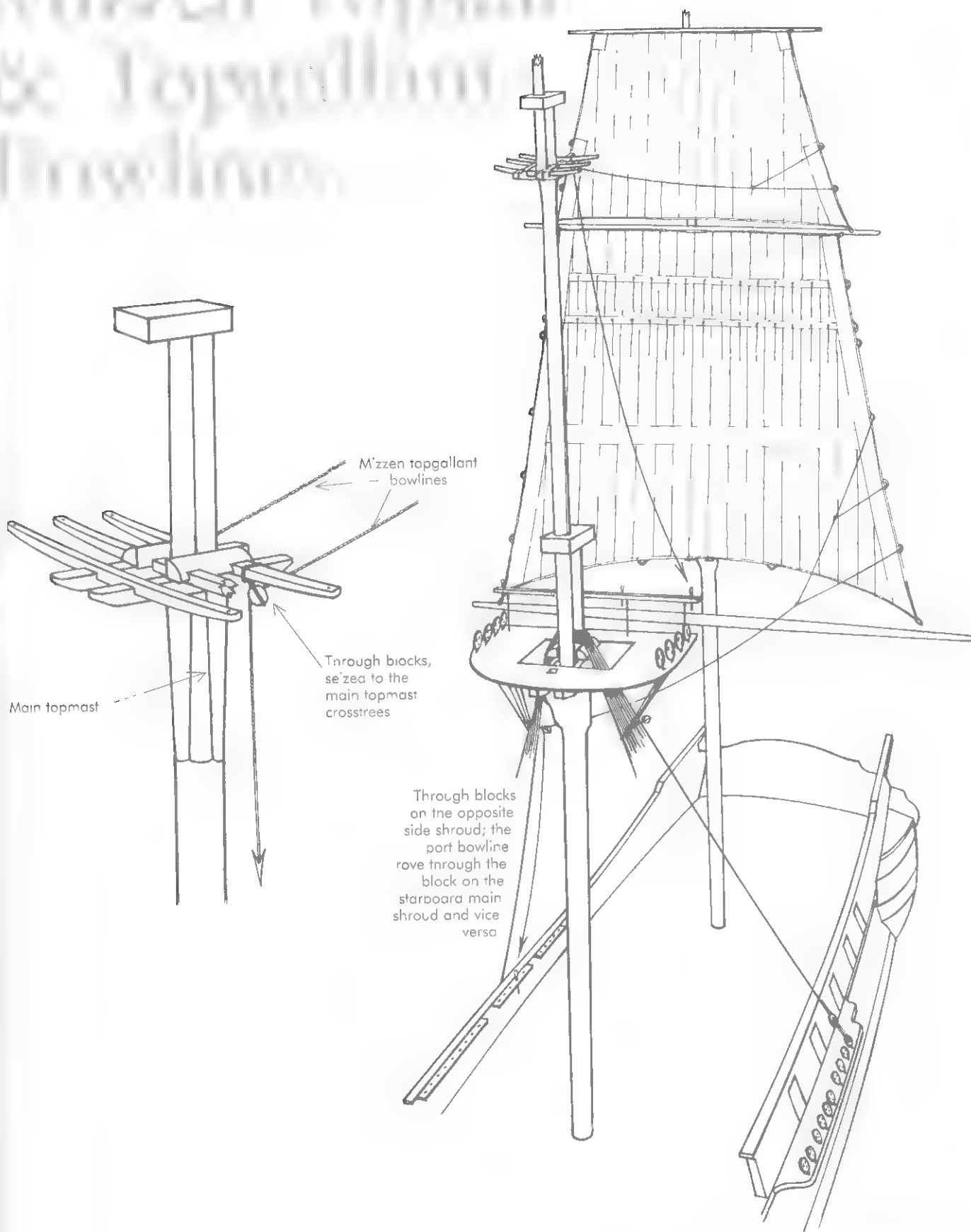
The lead blocks are carried on the  
aftermost fore shroud about  
6 feet below the futtock stave



# Main Topgallant Bowlines

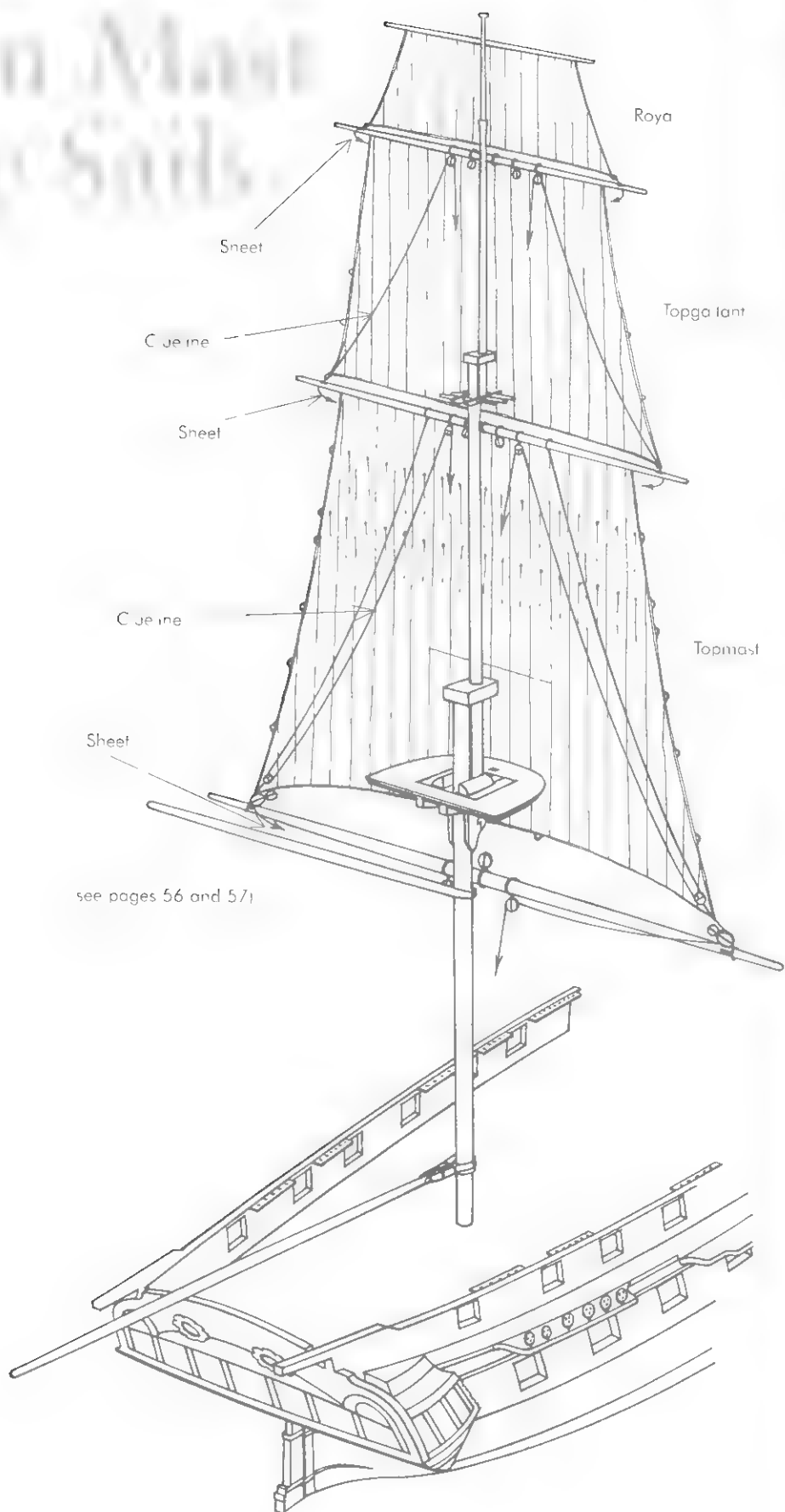


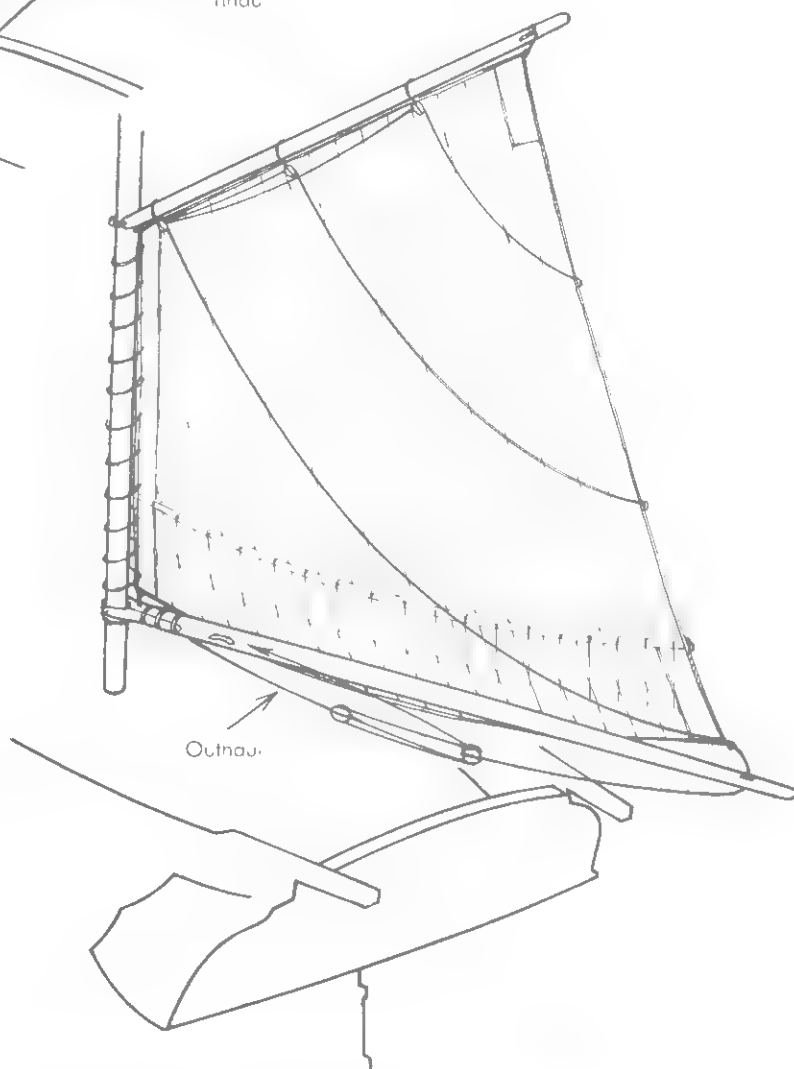
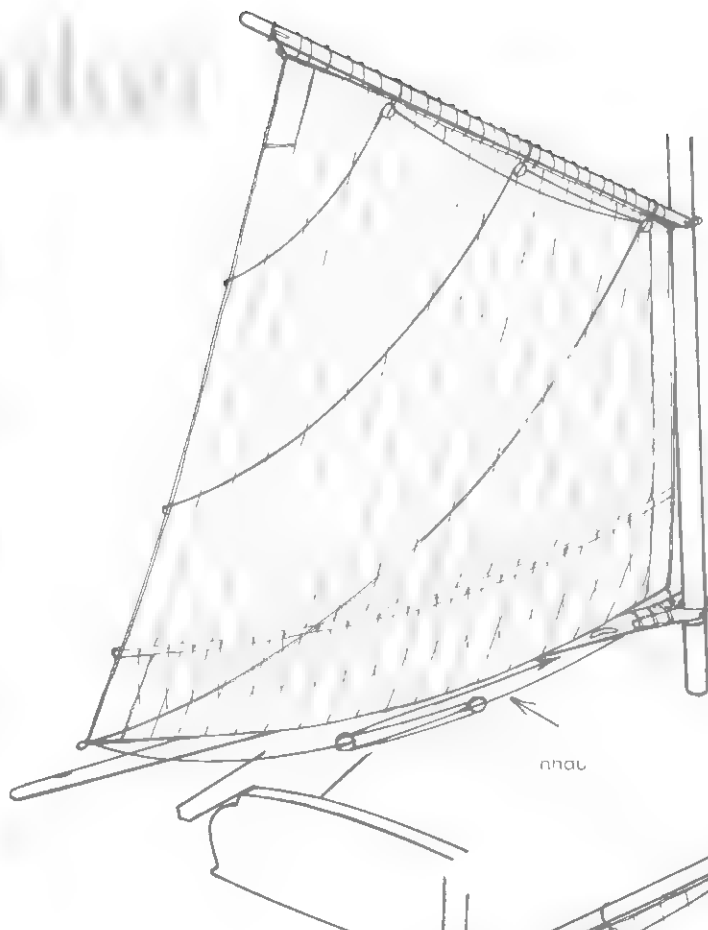
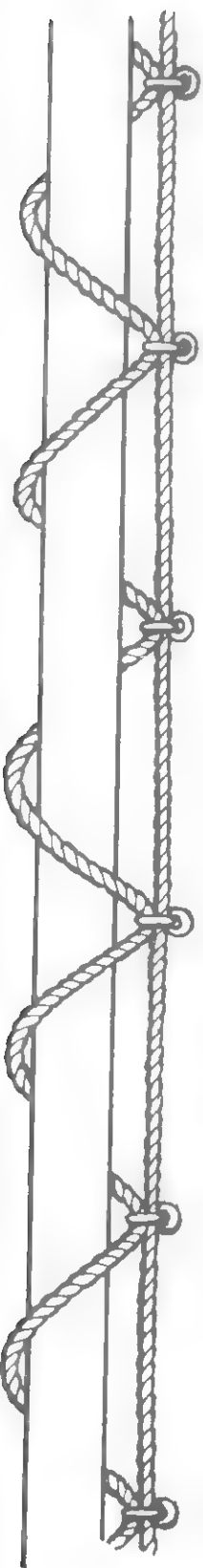
# Mizzen Topmast & Topgallant Dredlines



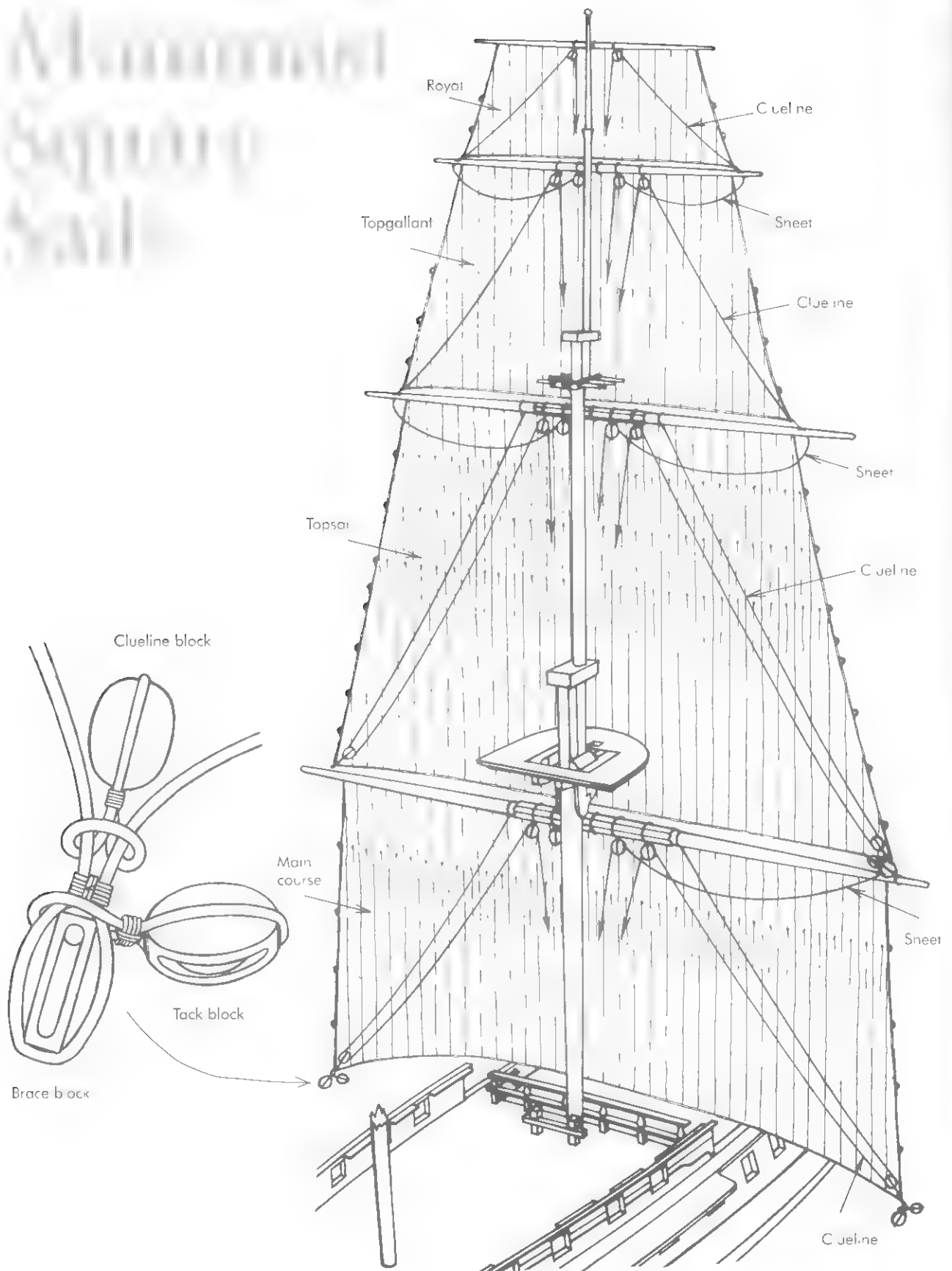


# Mizzen Mast Square Sails

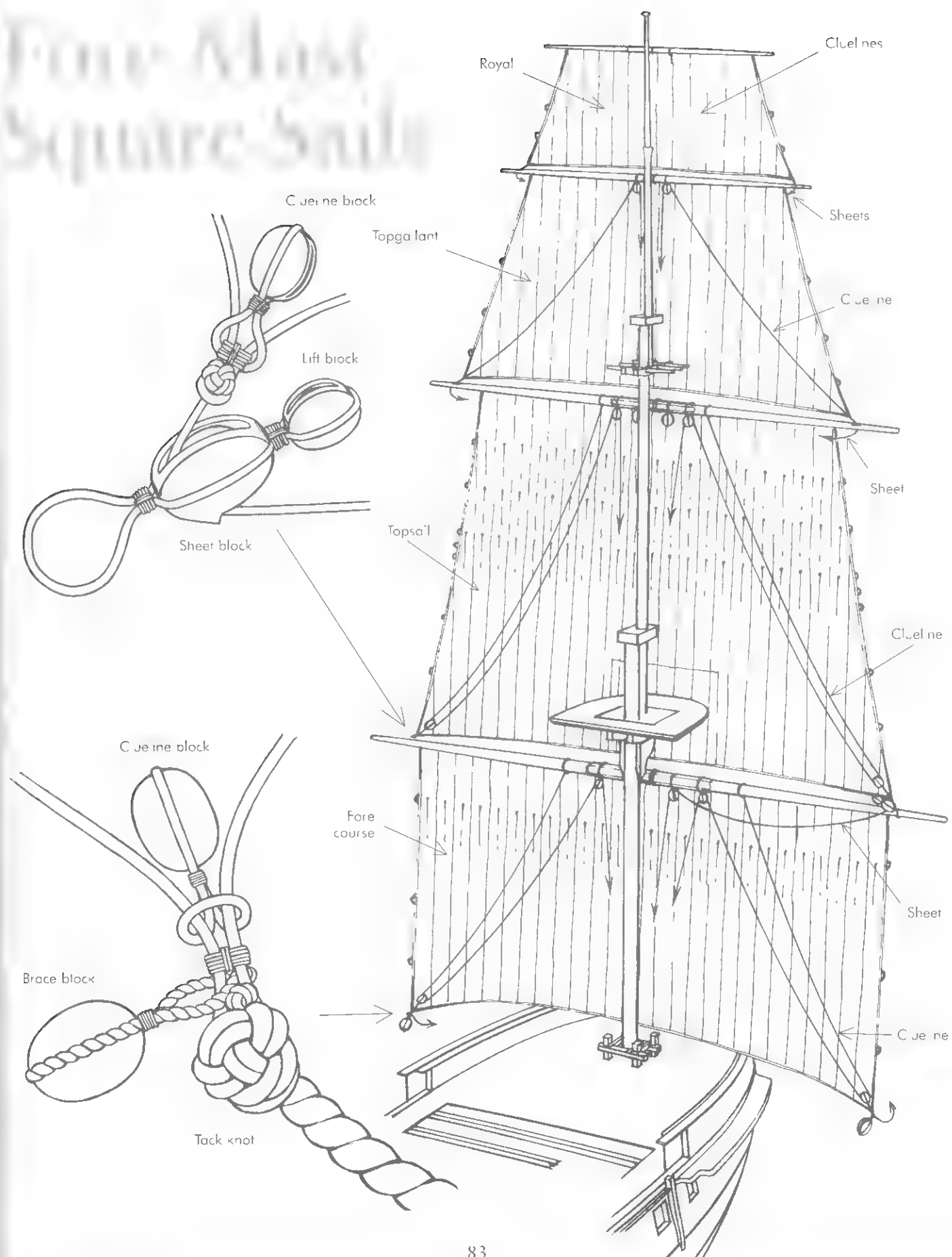




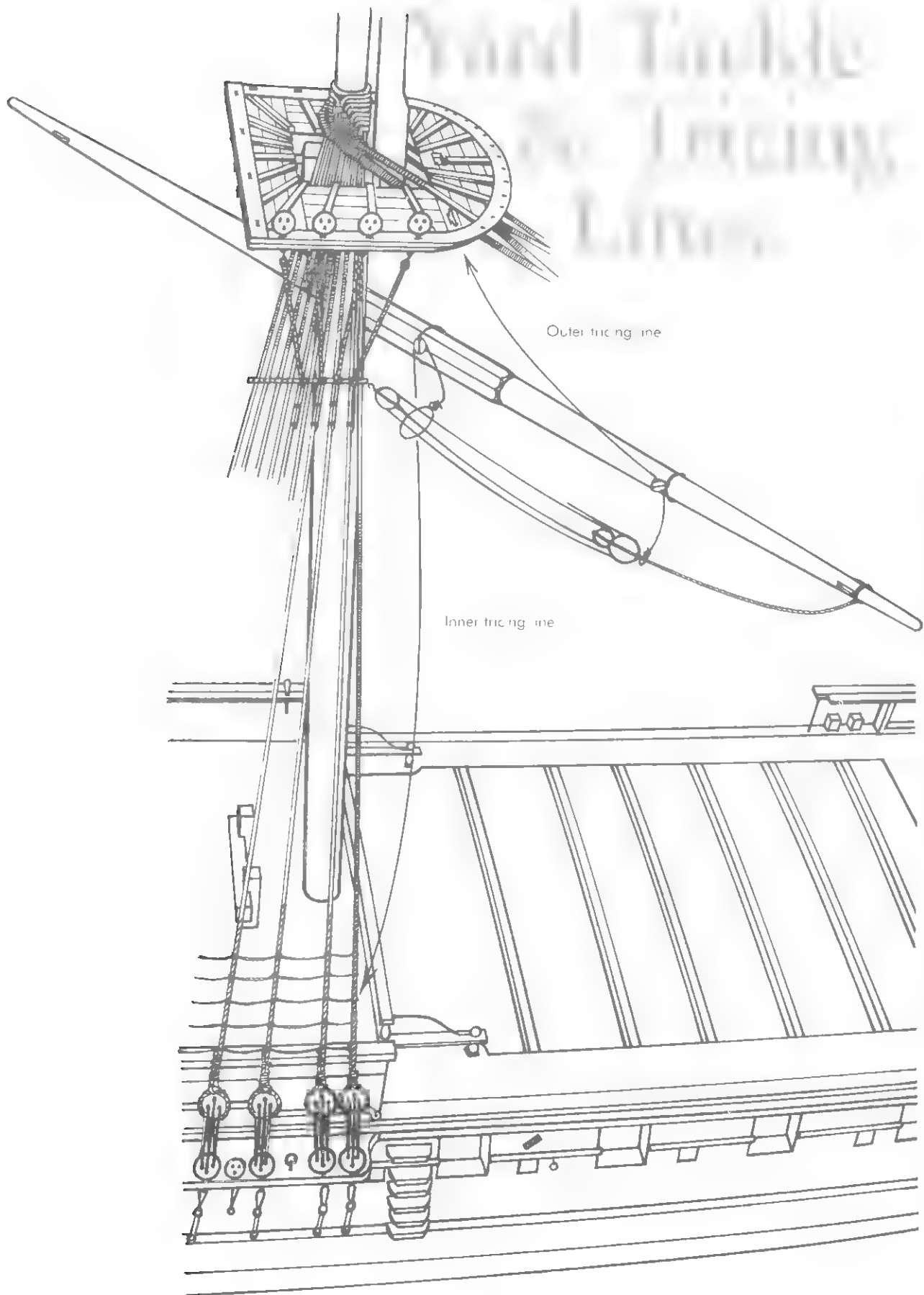
# 

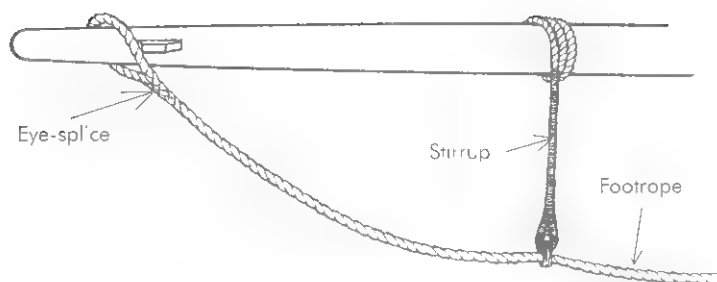
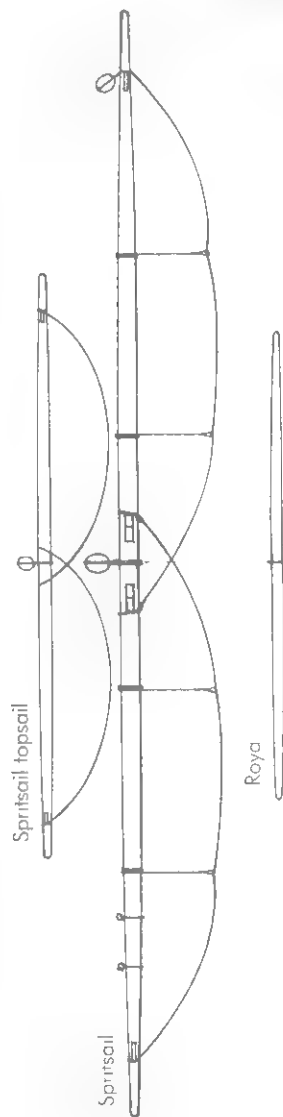
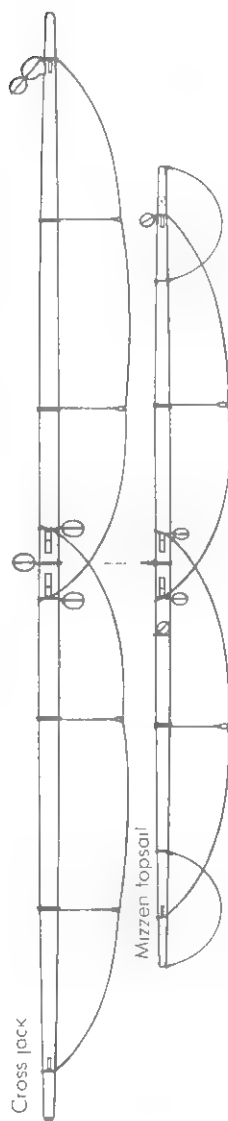
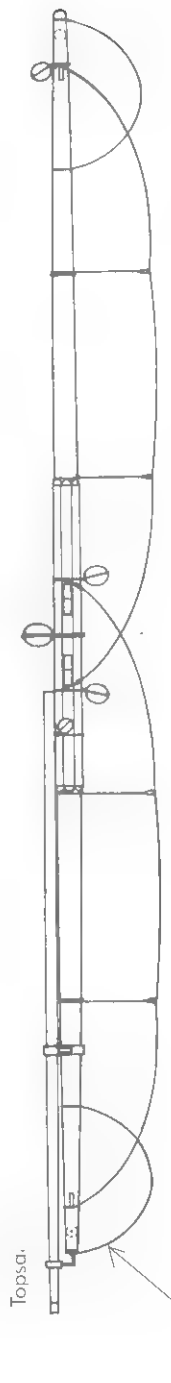
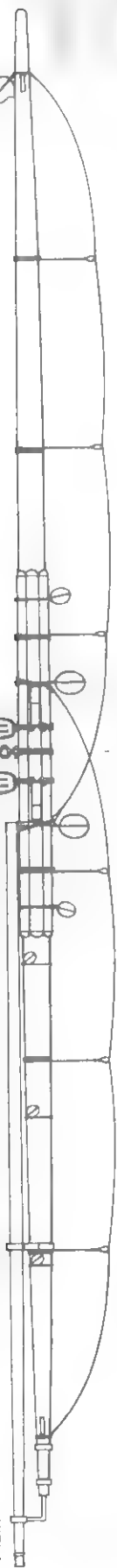


# Fore-Mast Square-Sail

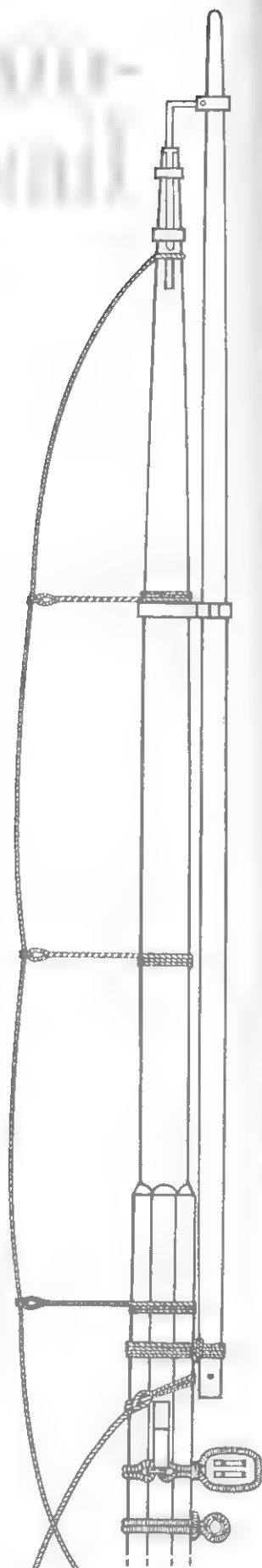
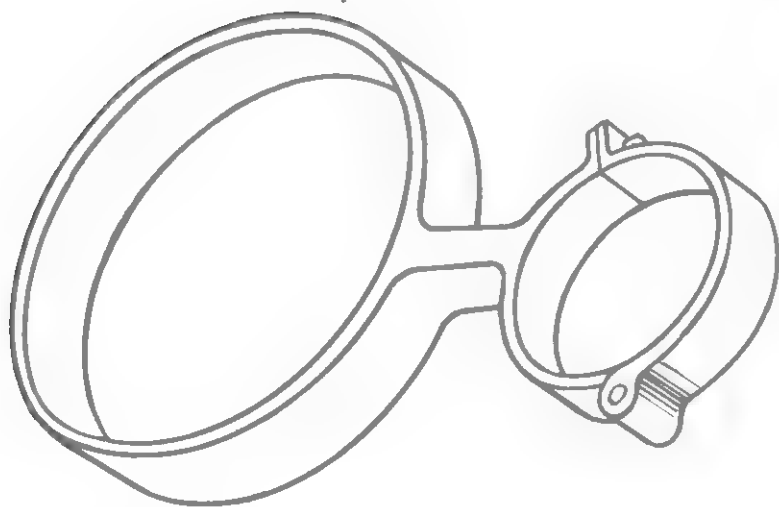
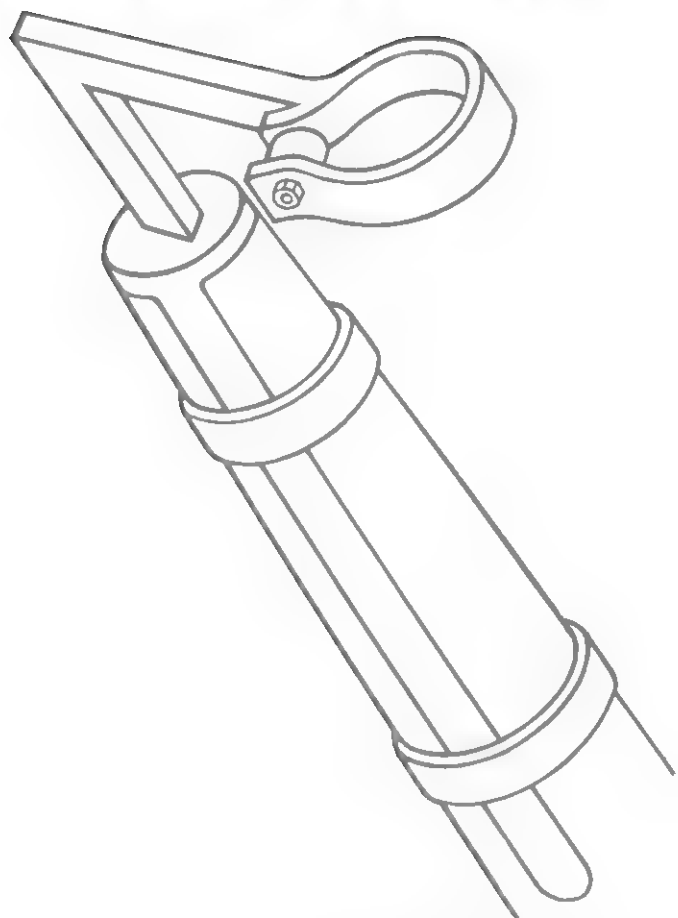


# Yard Tackle to Topping Lifts.

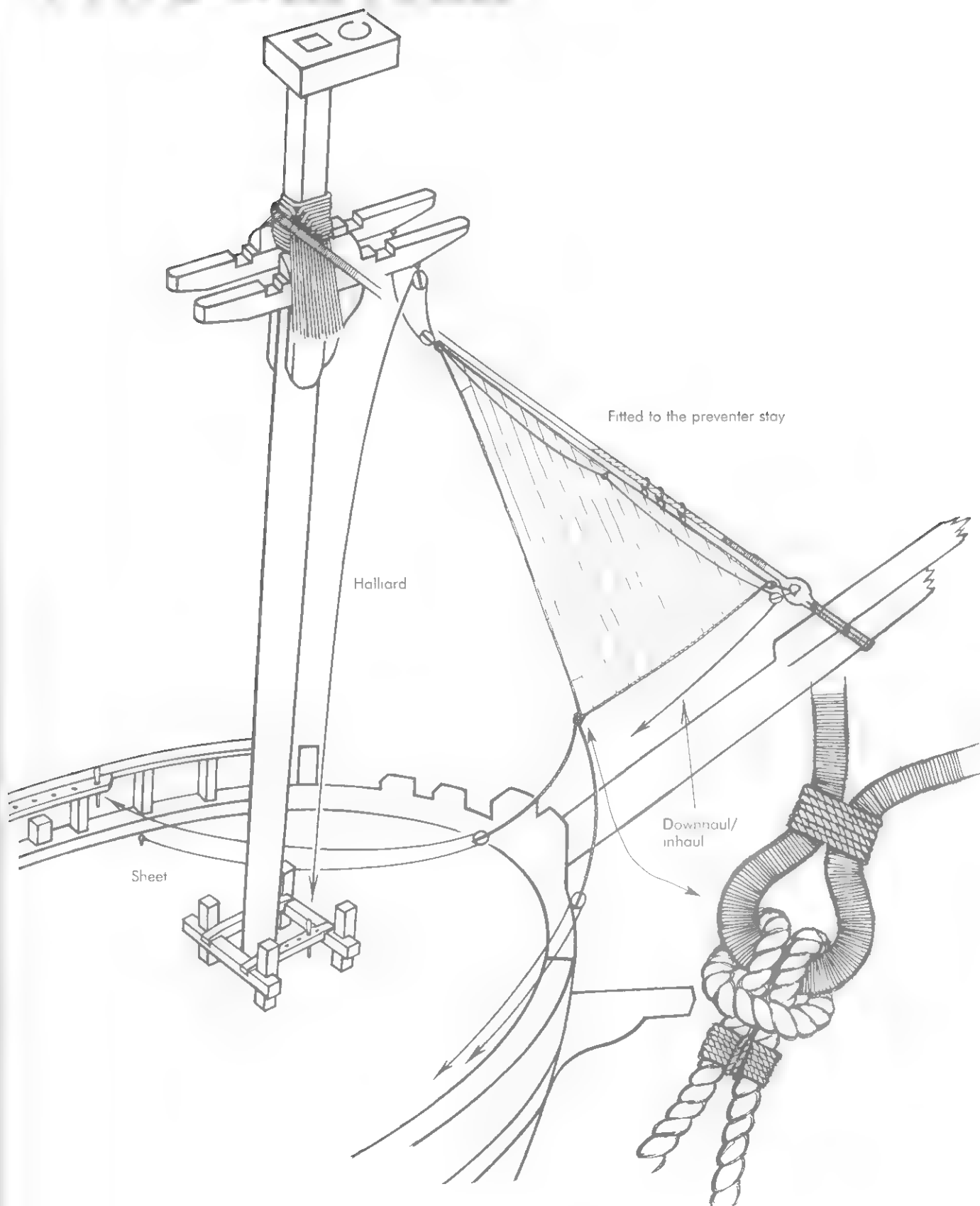




# Main Yard with Stow- Sail Broom & Stowal Broom Arrows

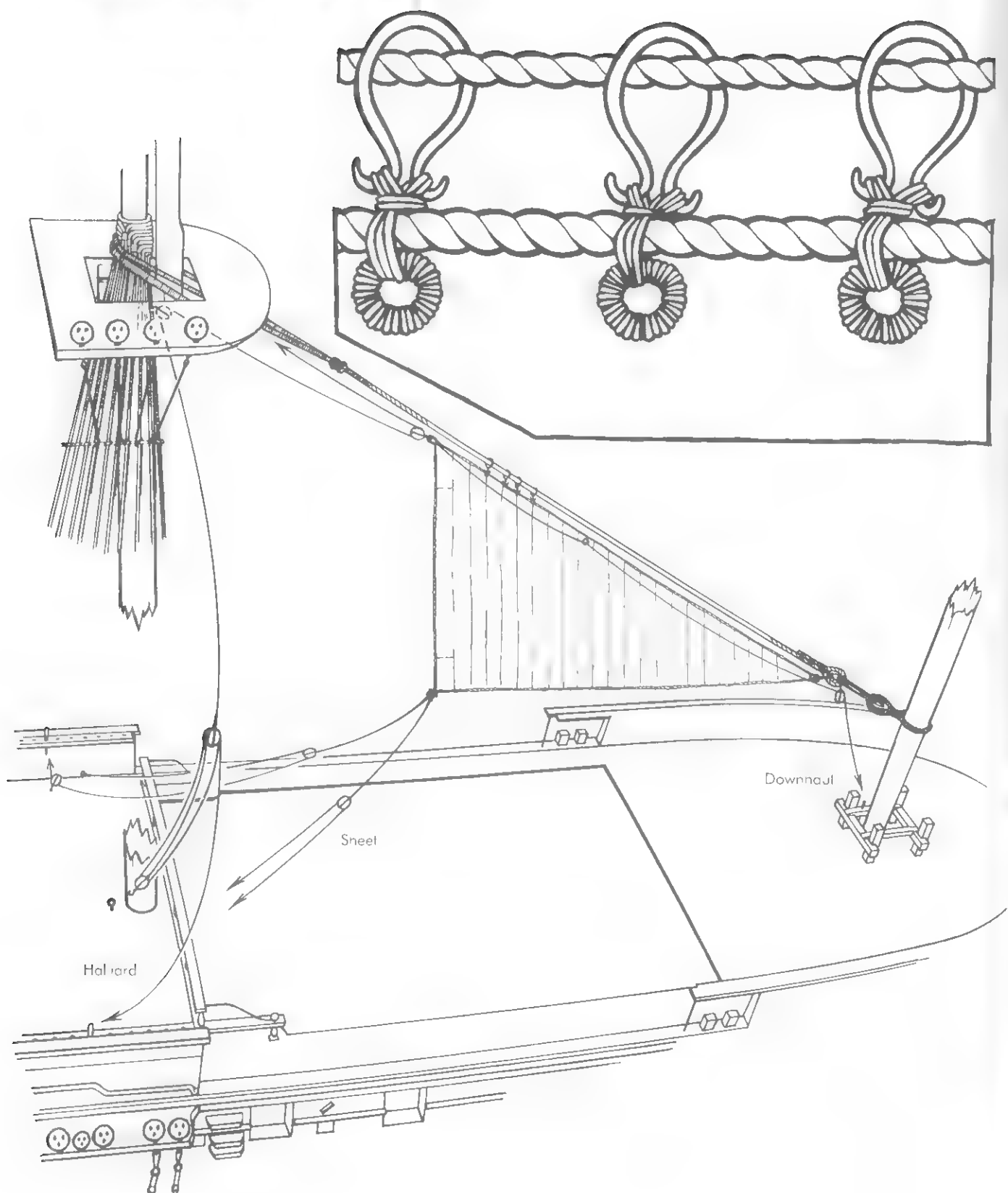


# Free Staysail

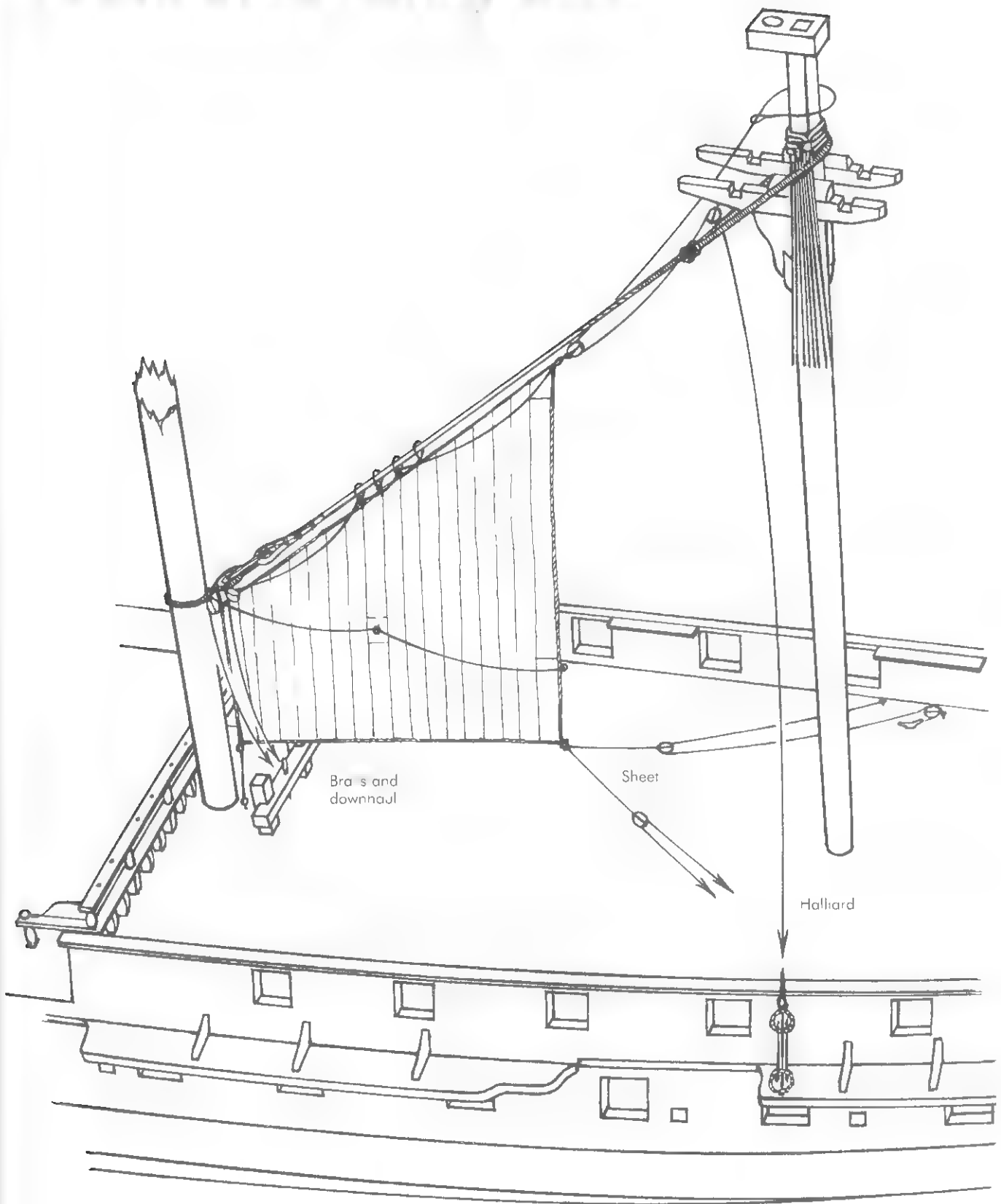




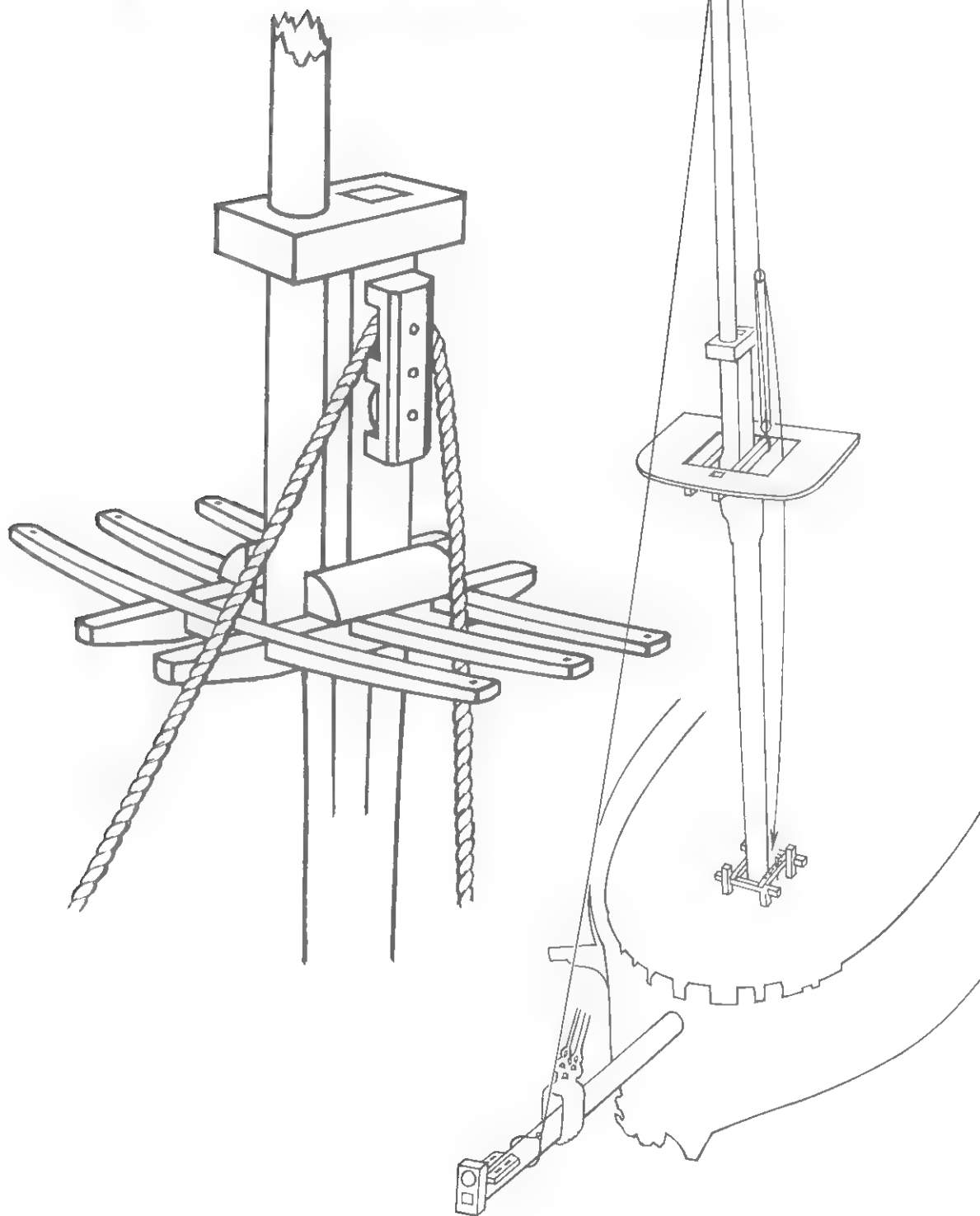
# Main Staysail



# Mizzen Staysail

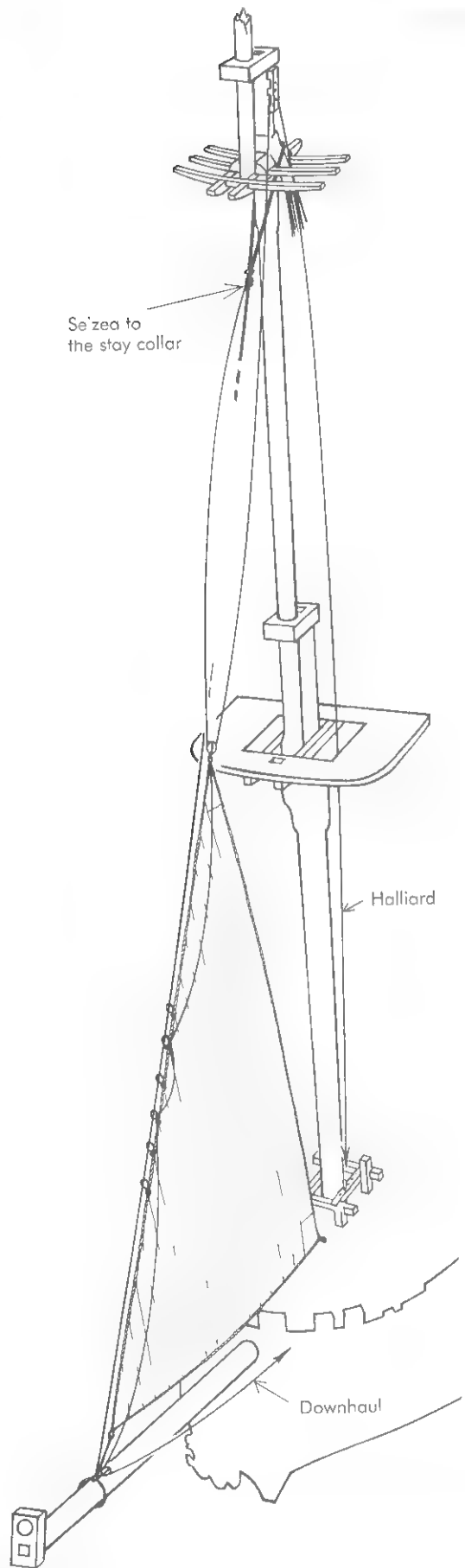
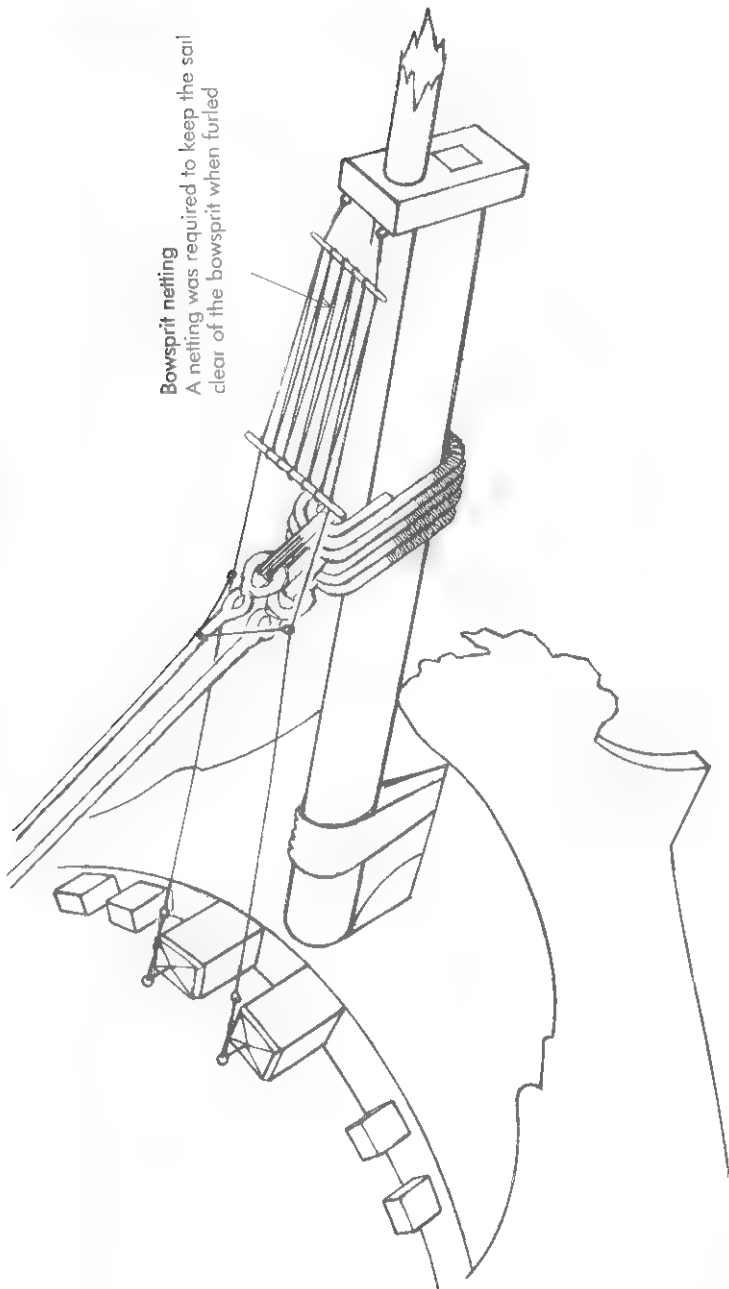


# Tree Topmast Staysail Stay

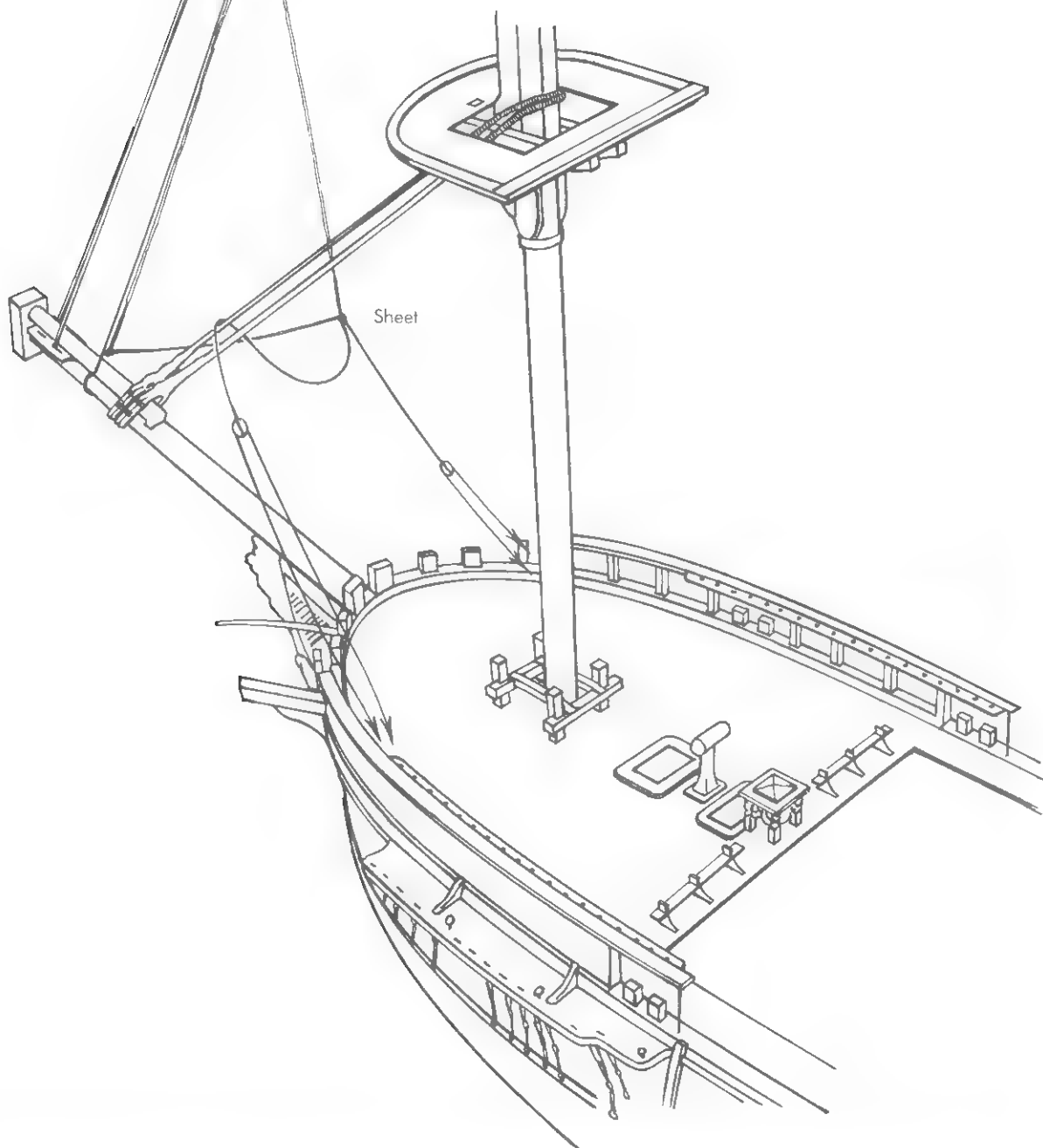


# Curved Tapered Stay Sail

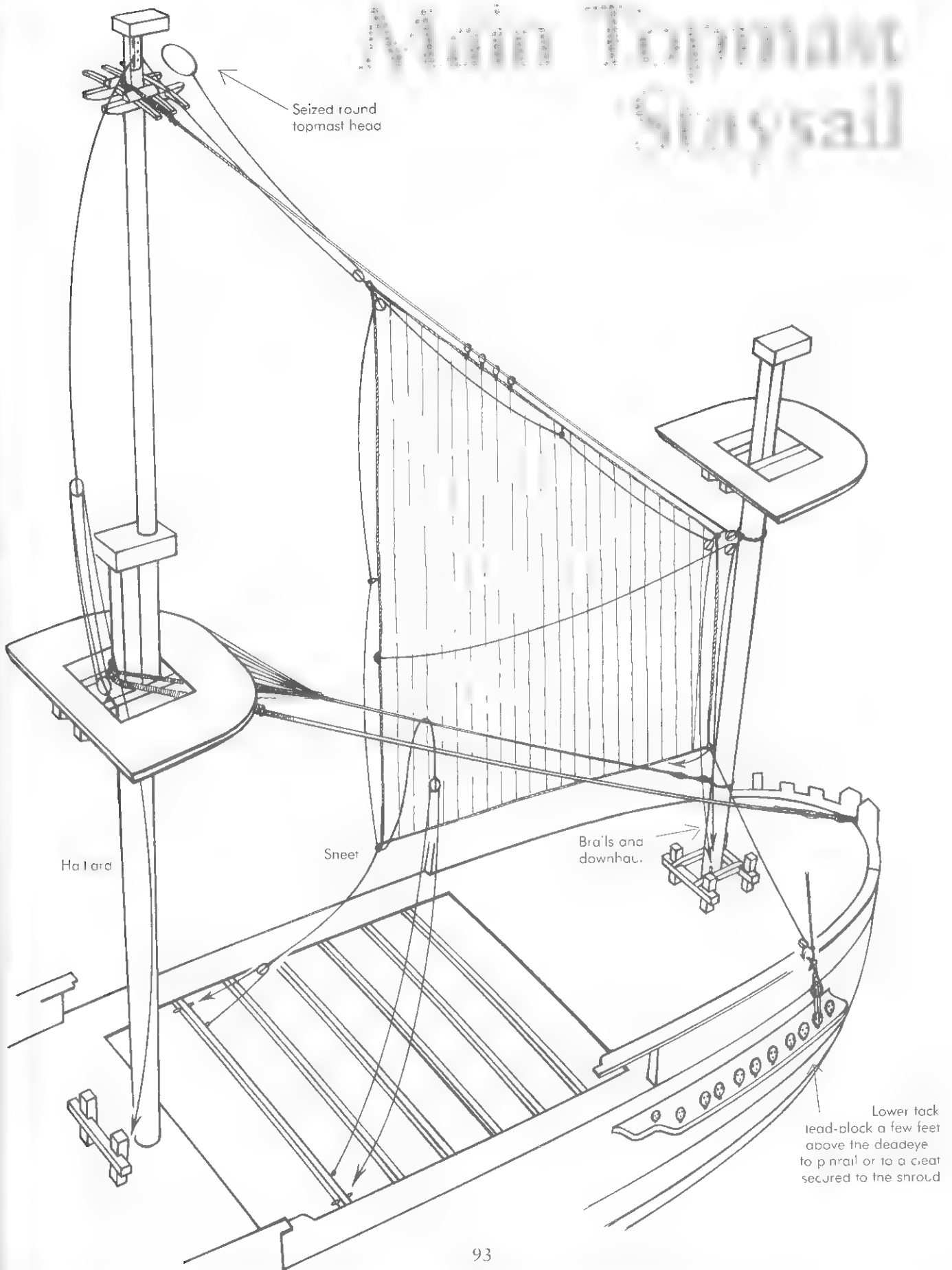
**Bowsprit netting**  
A netting was required to keep the sail clear of the bowsprit when furled



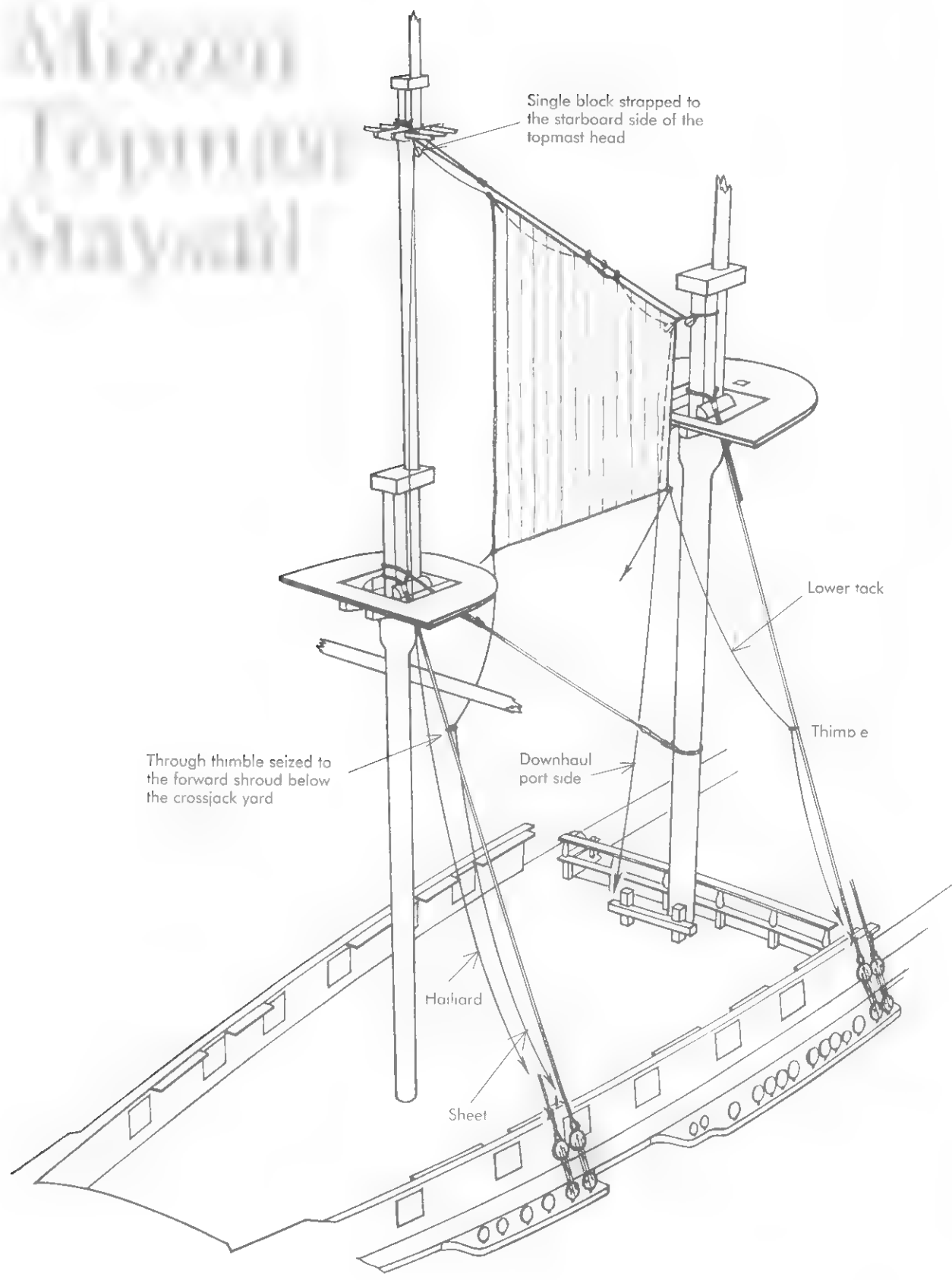
# Fore Topmast Staysail



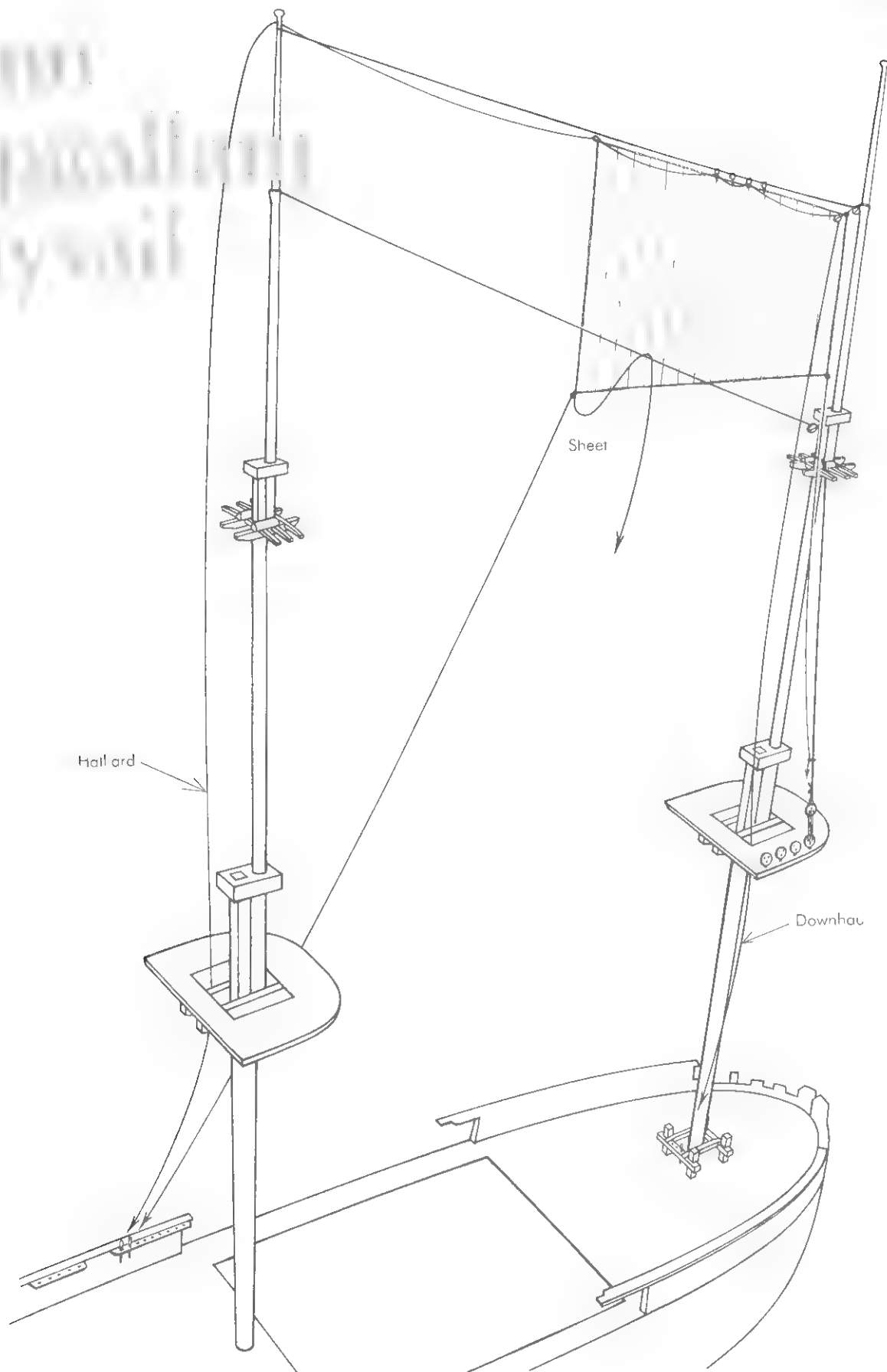
# Main Topmast Staysail



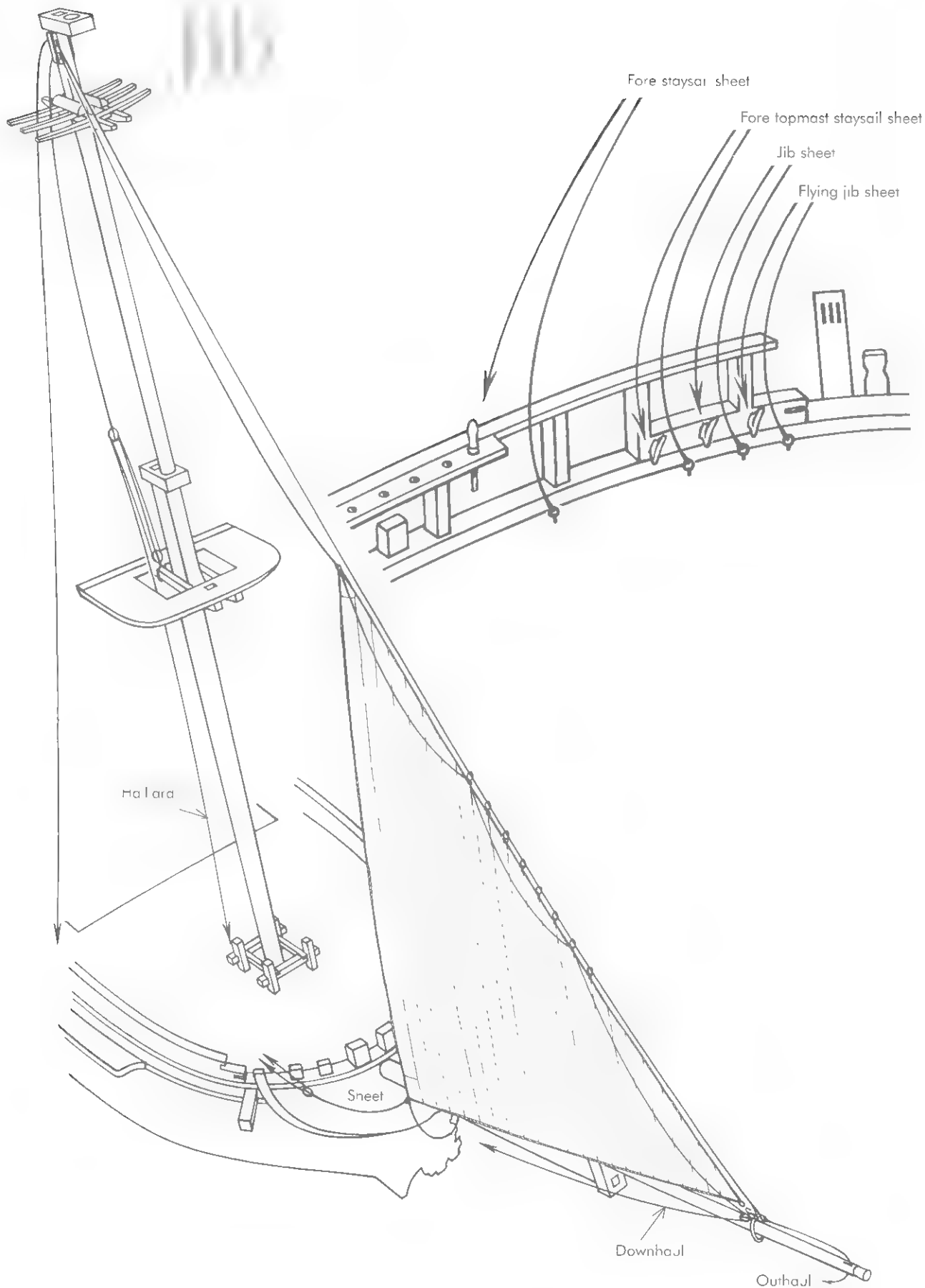
# Mizzen Topmast Stay sail



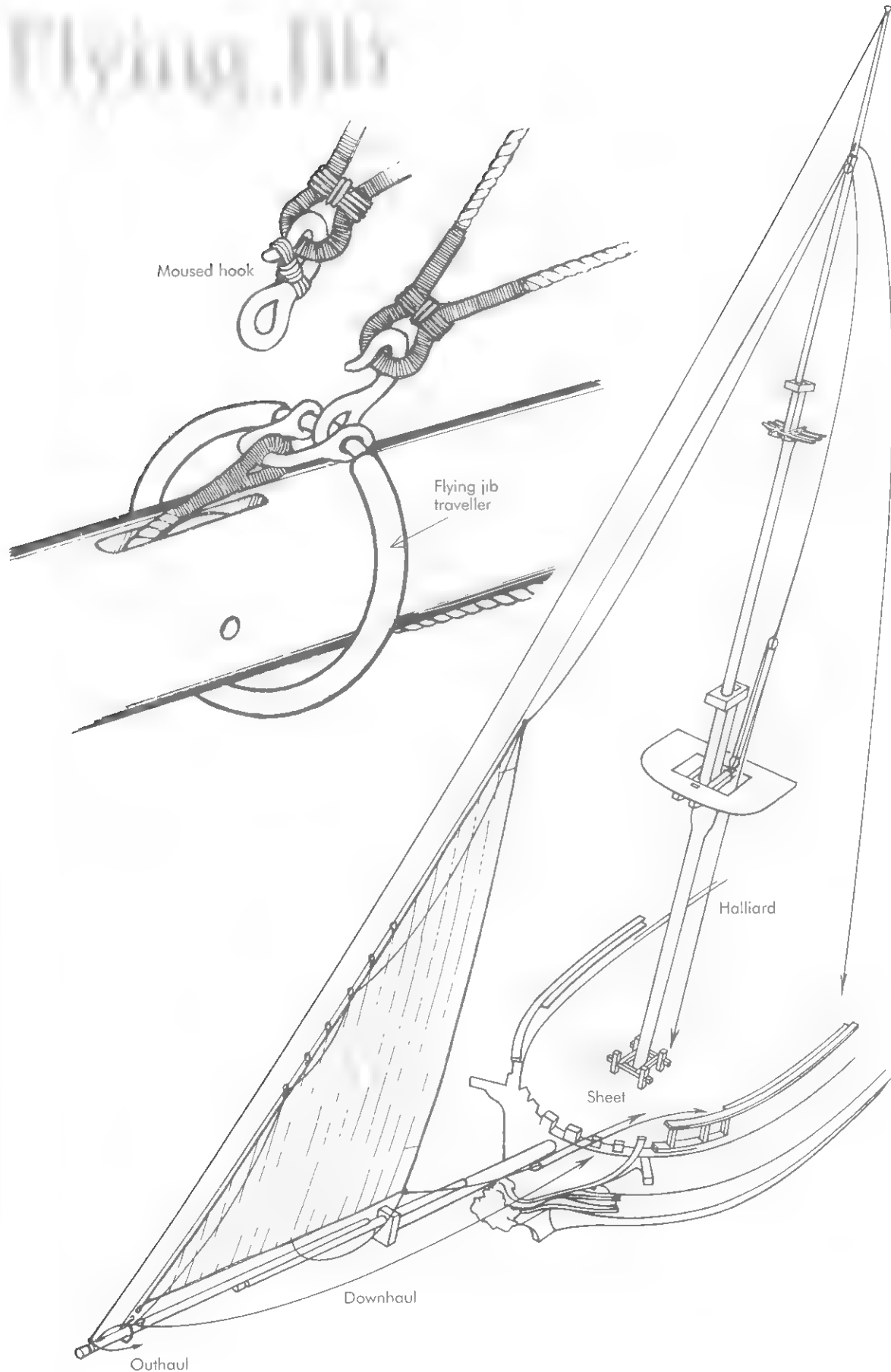
# Alum Topcollum Stay sail



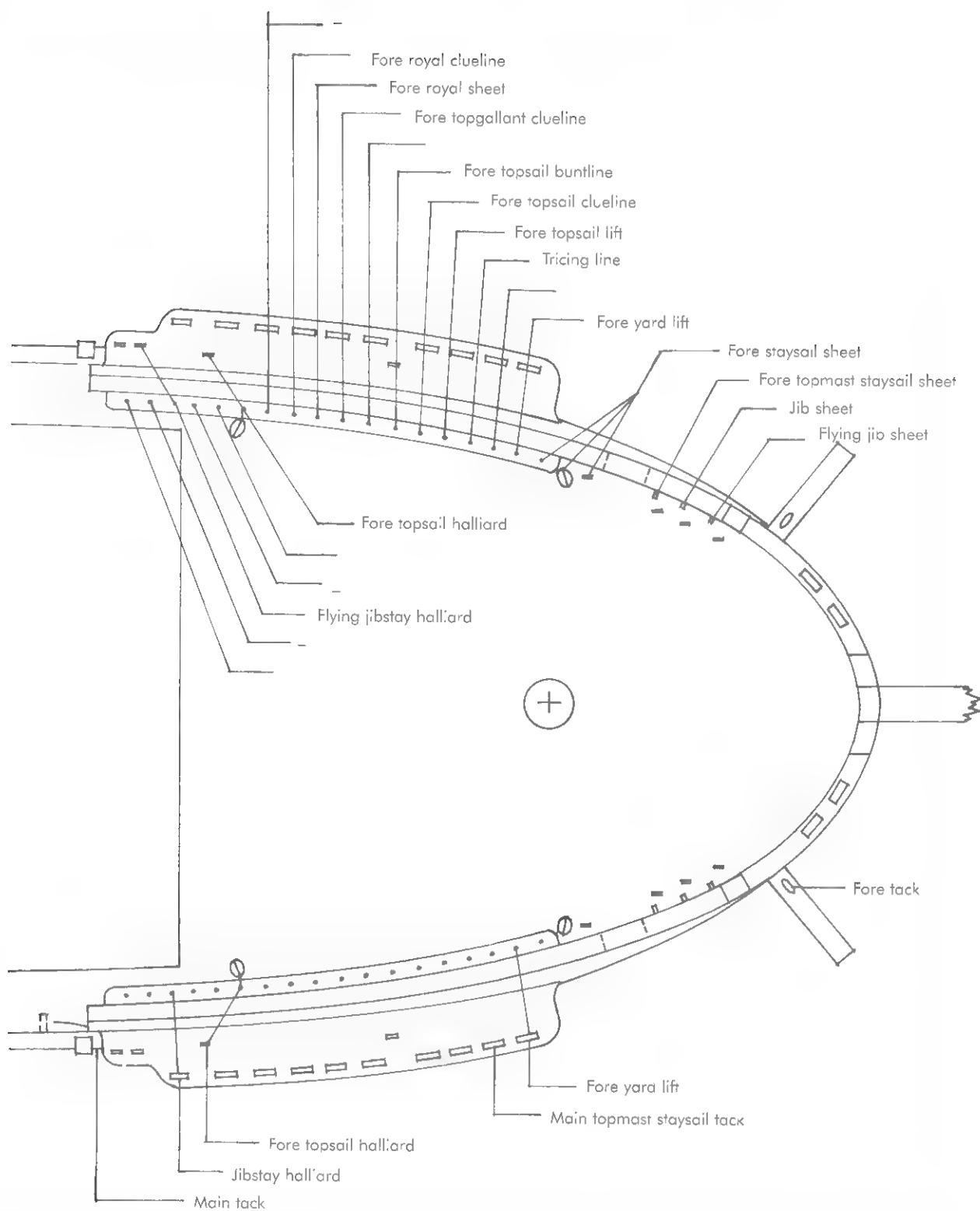




# Flying Jib

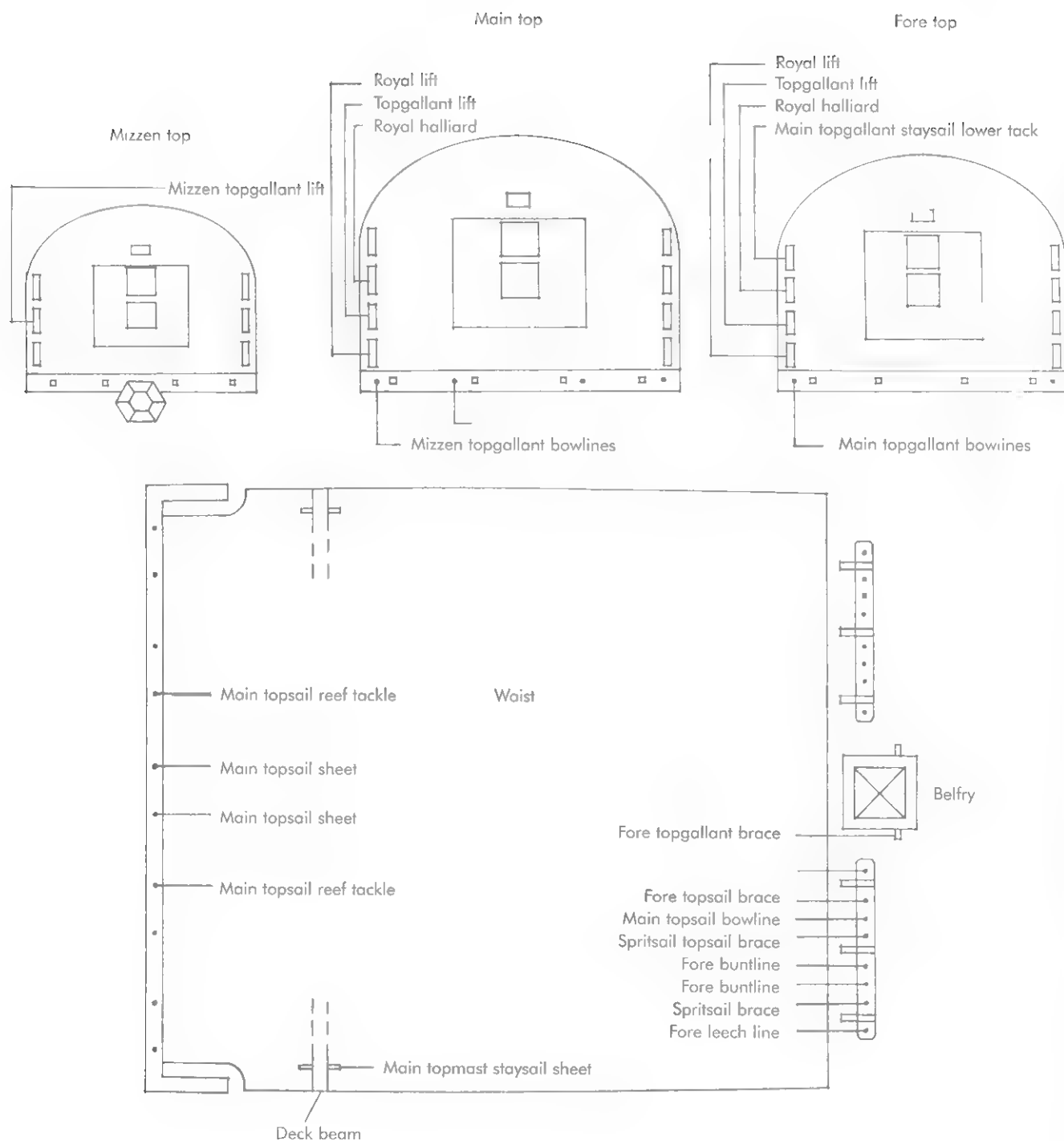


# Belaying Plan A



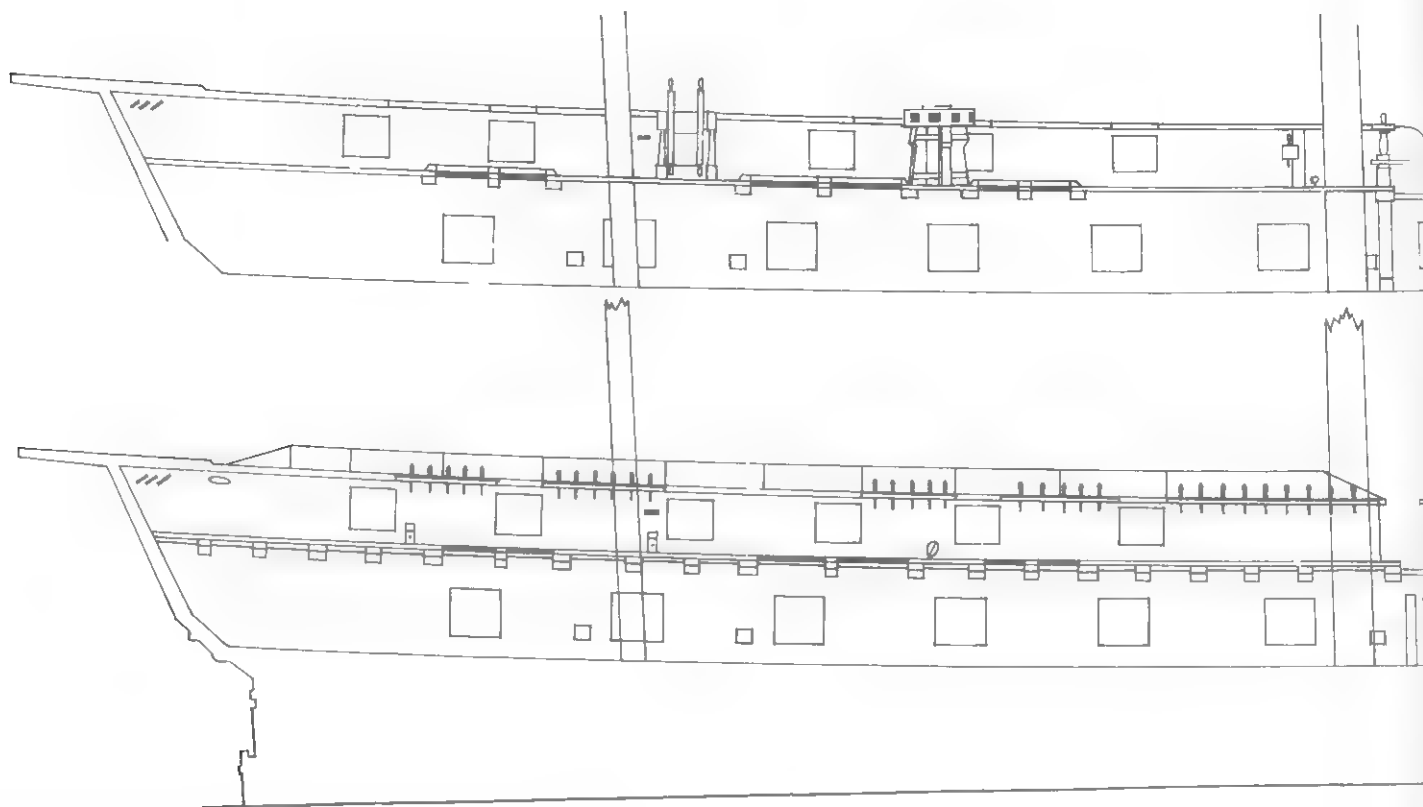
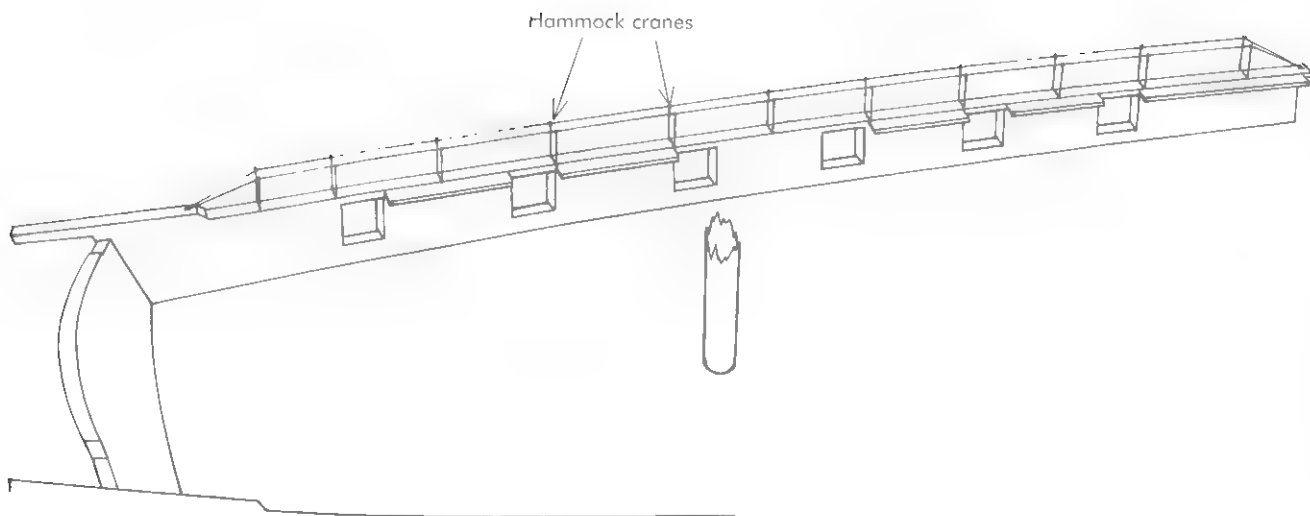


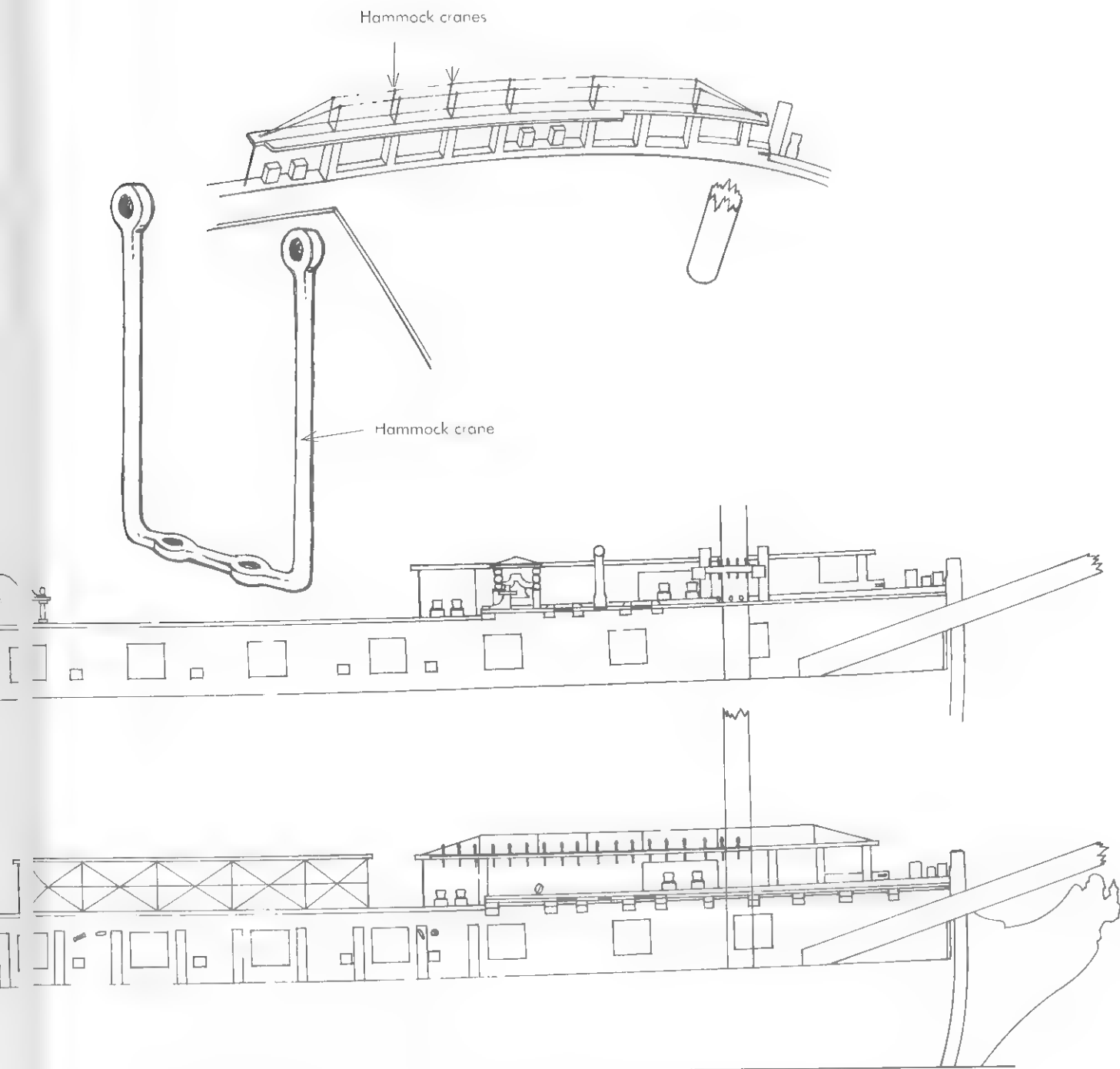
# Belaying Plan C





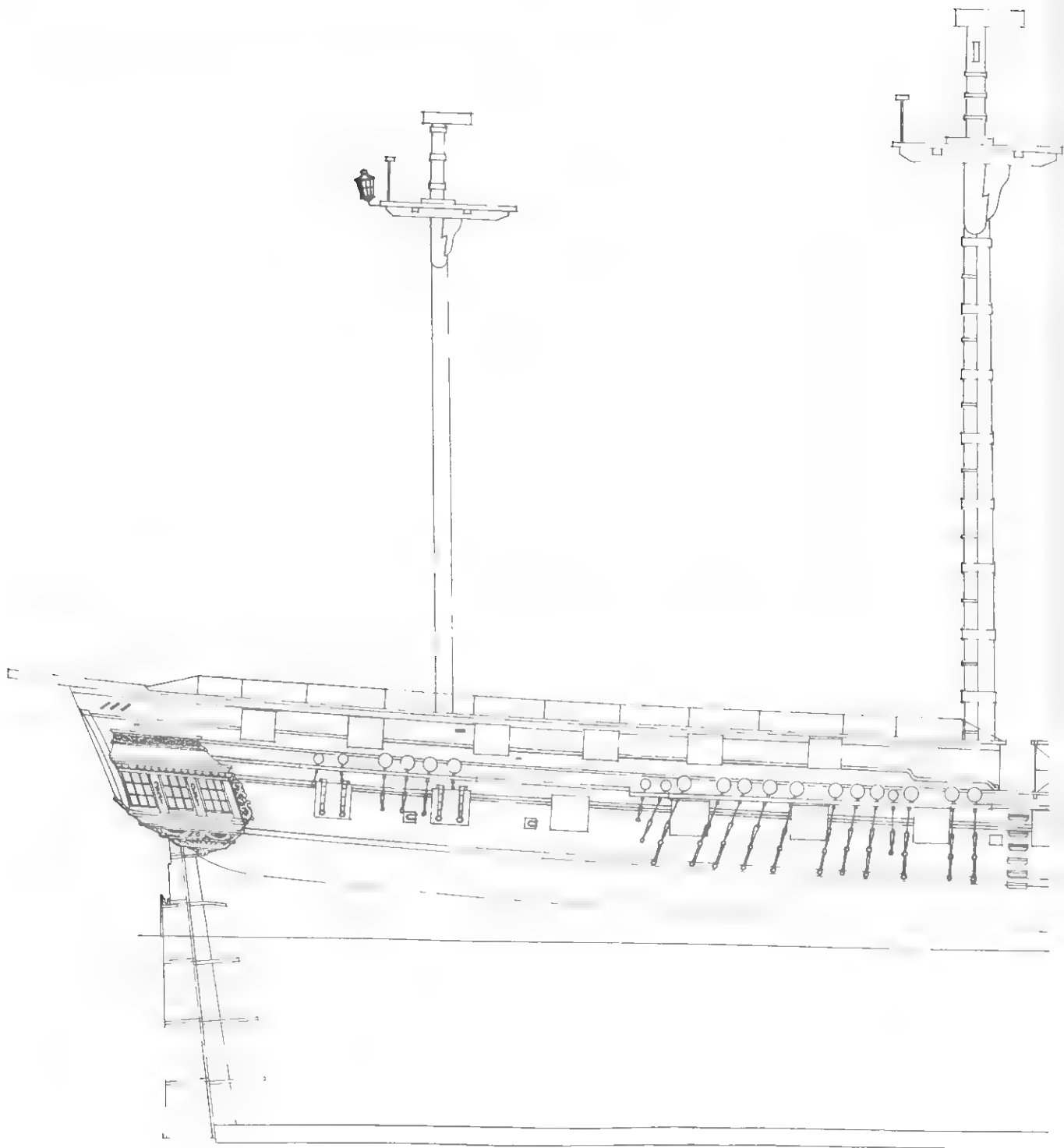
# Construction

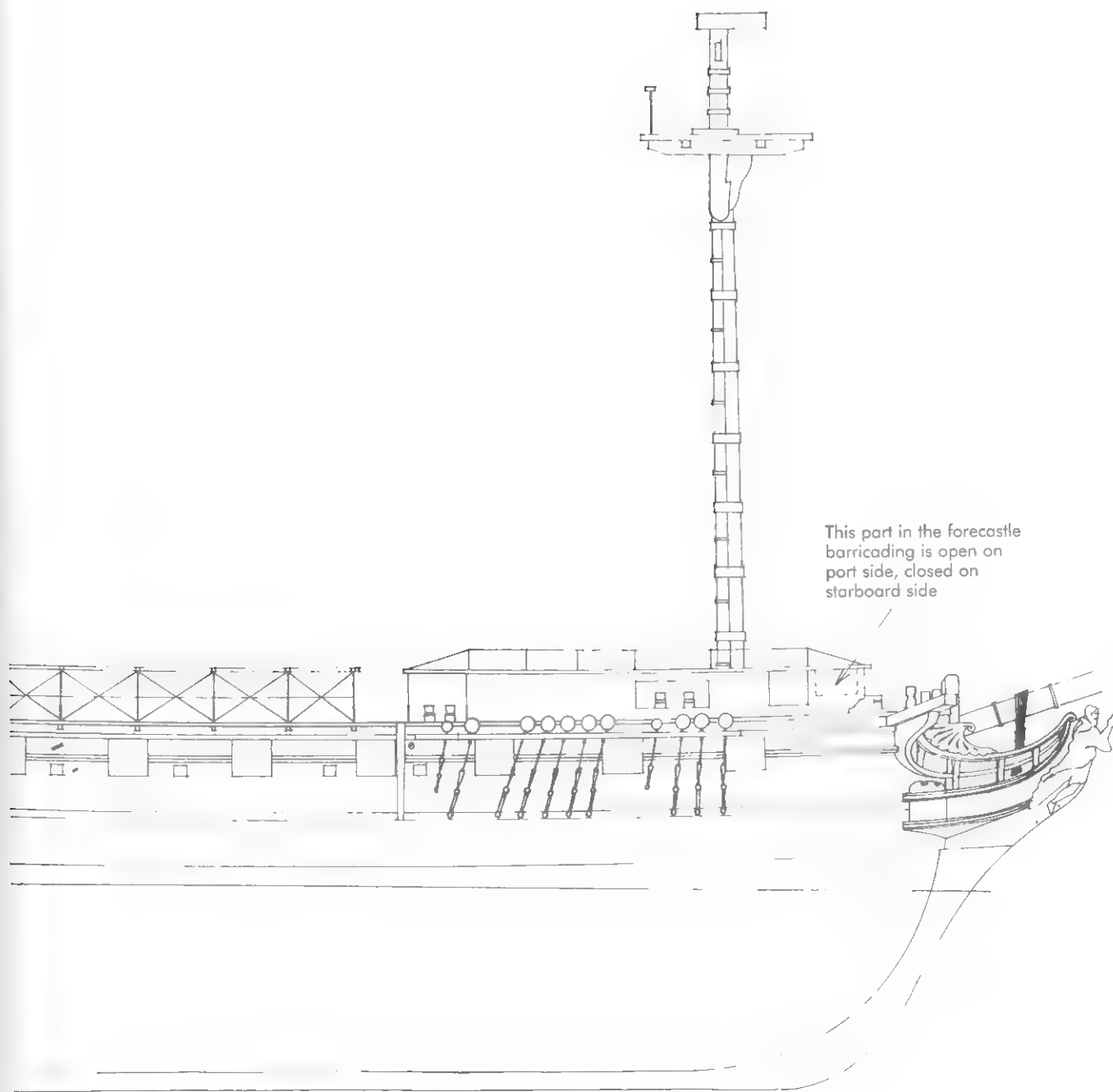






# External Hull

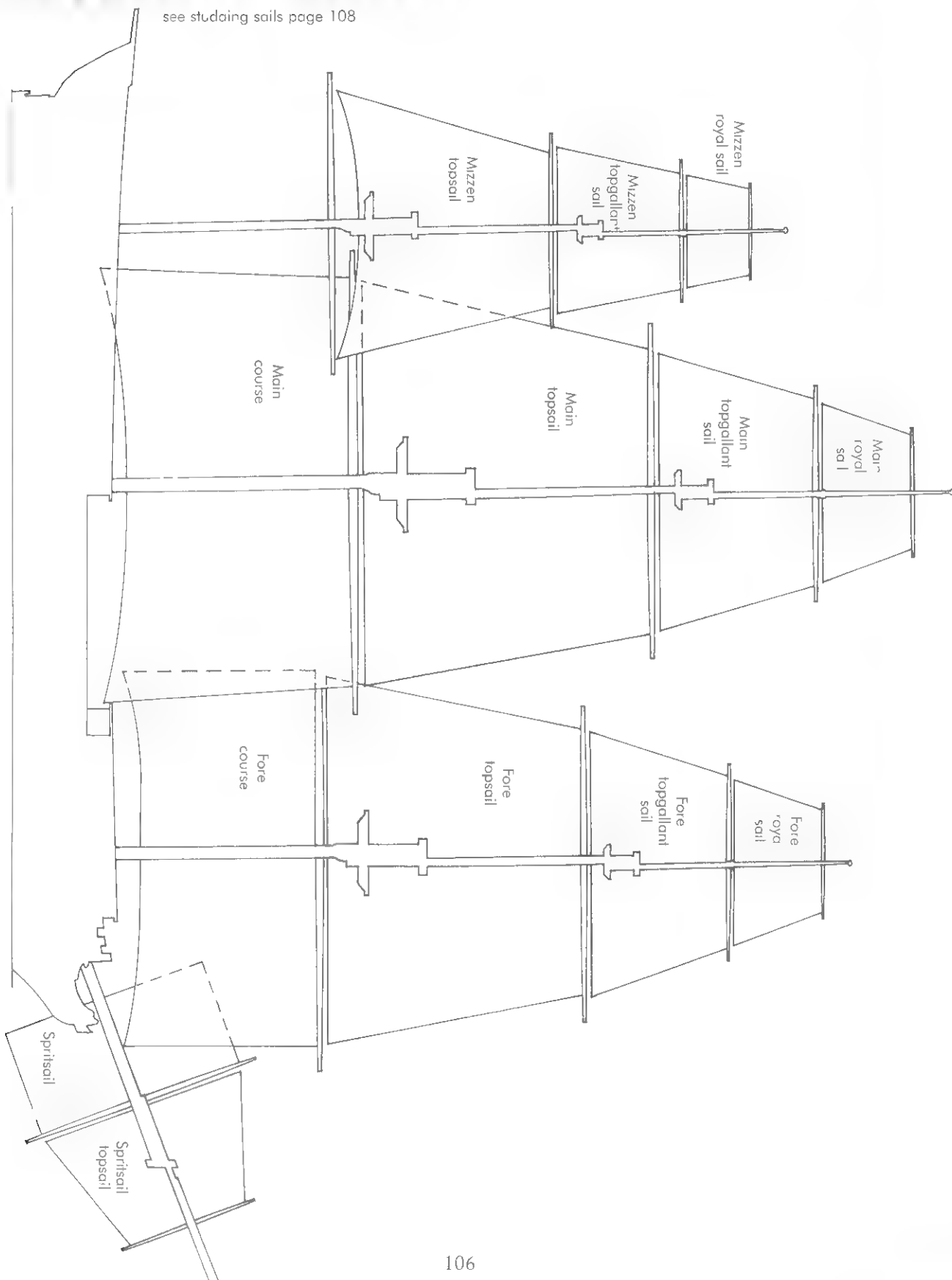




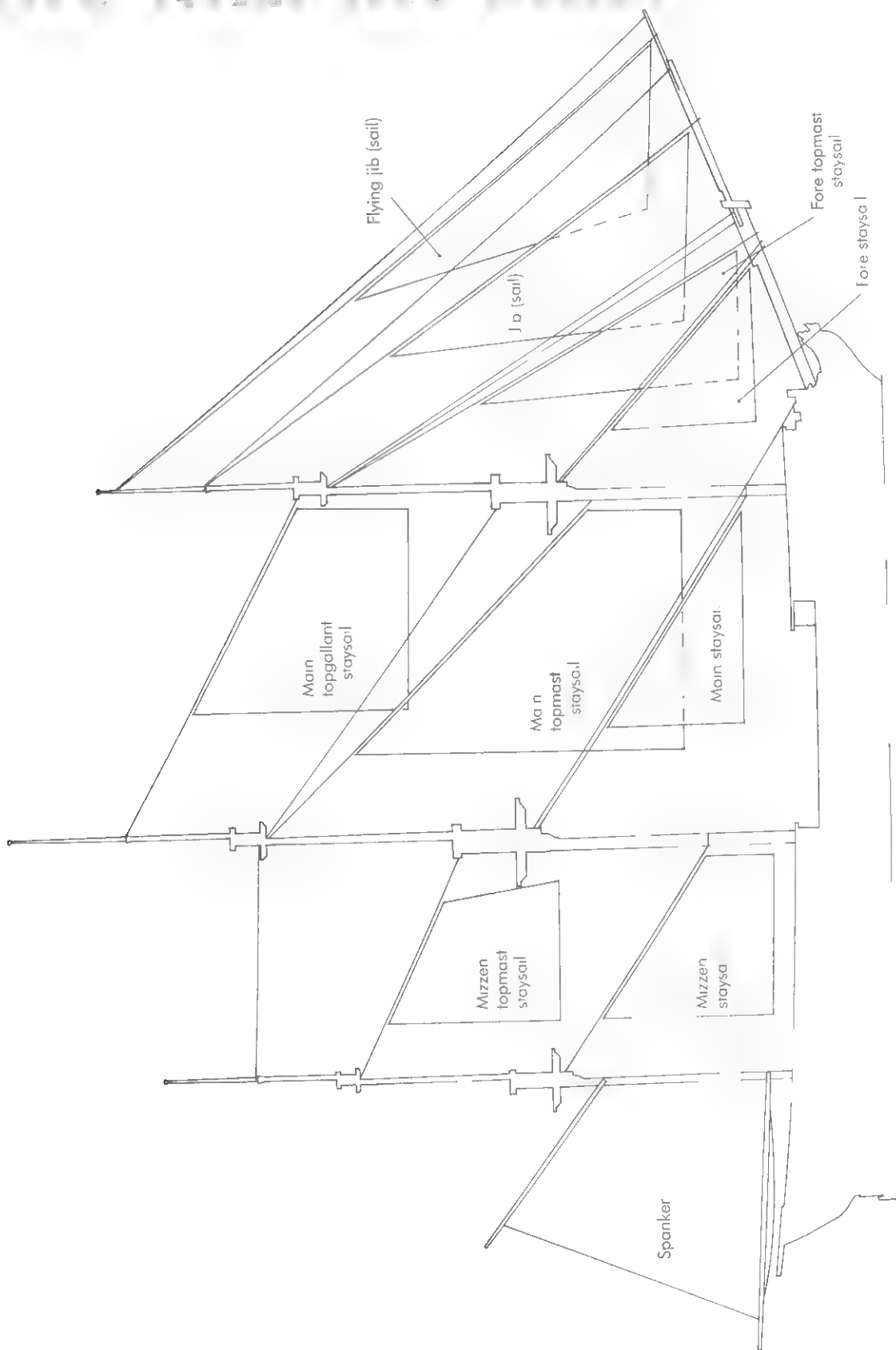
This part in the forecastle  
barricading is open on  
port side, closed on  
starboard side

# Square Sails

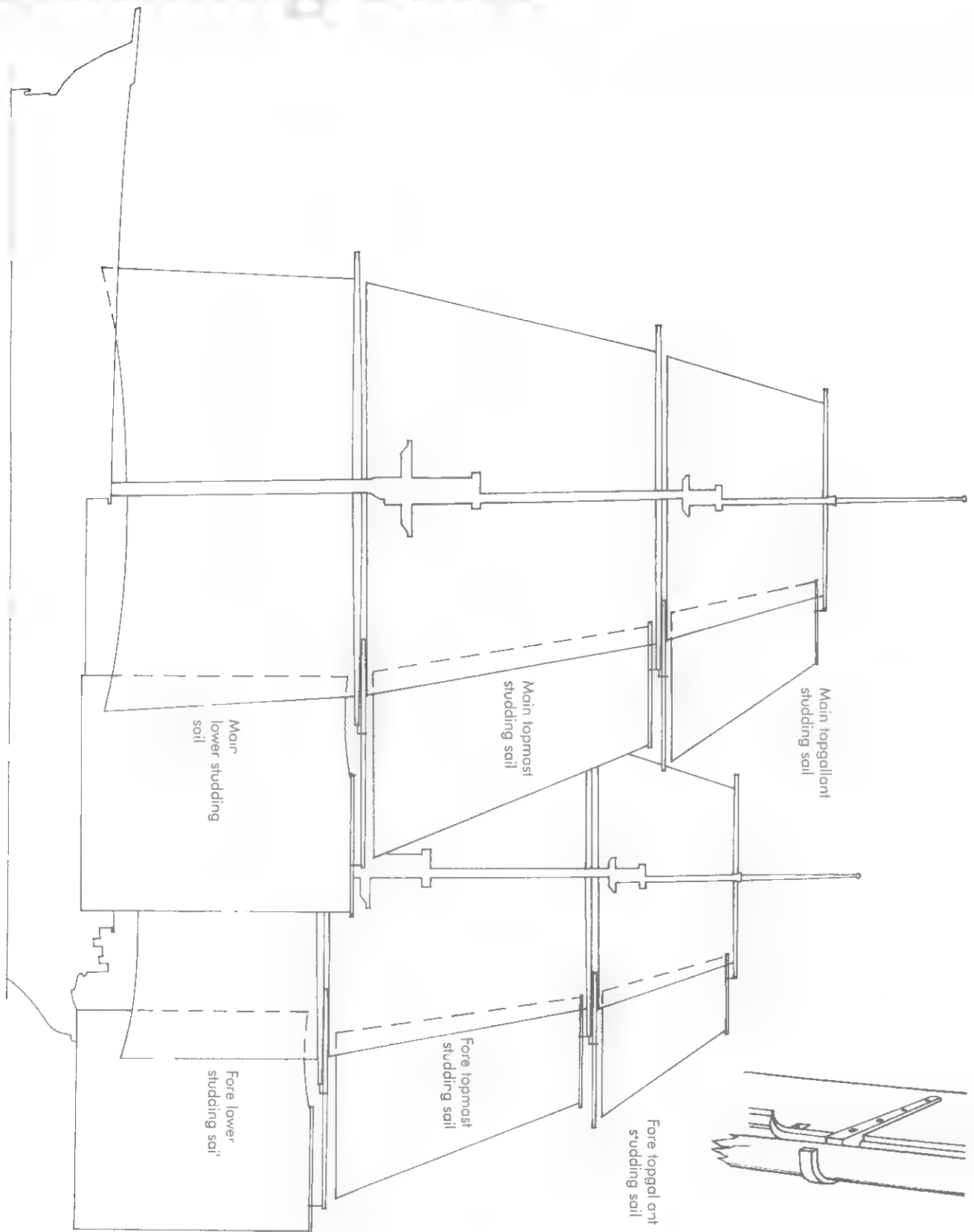
see studding sails page 108

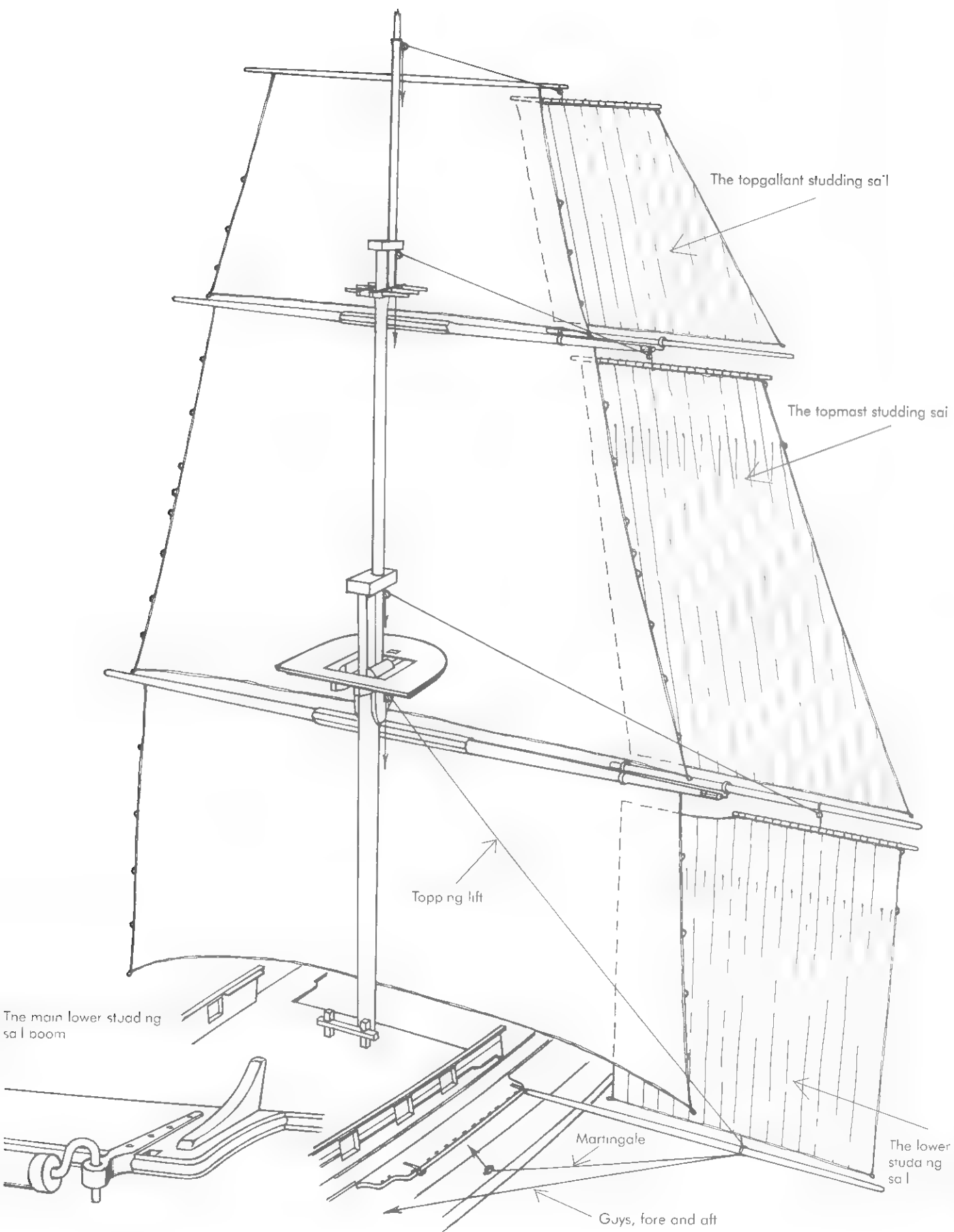


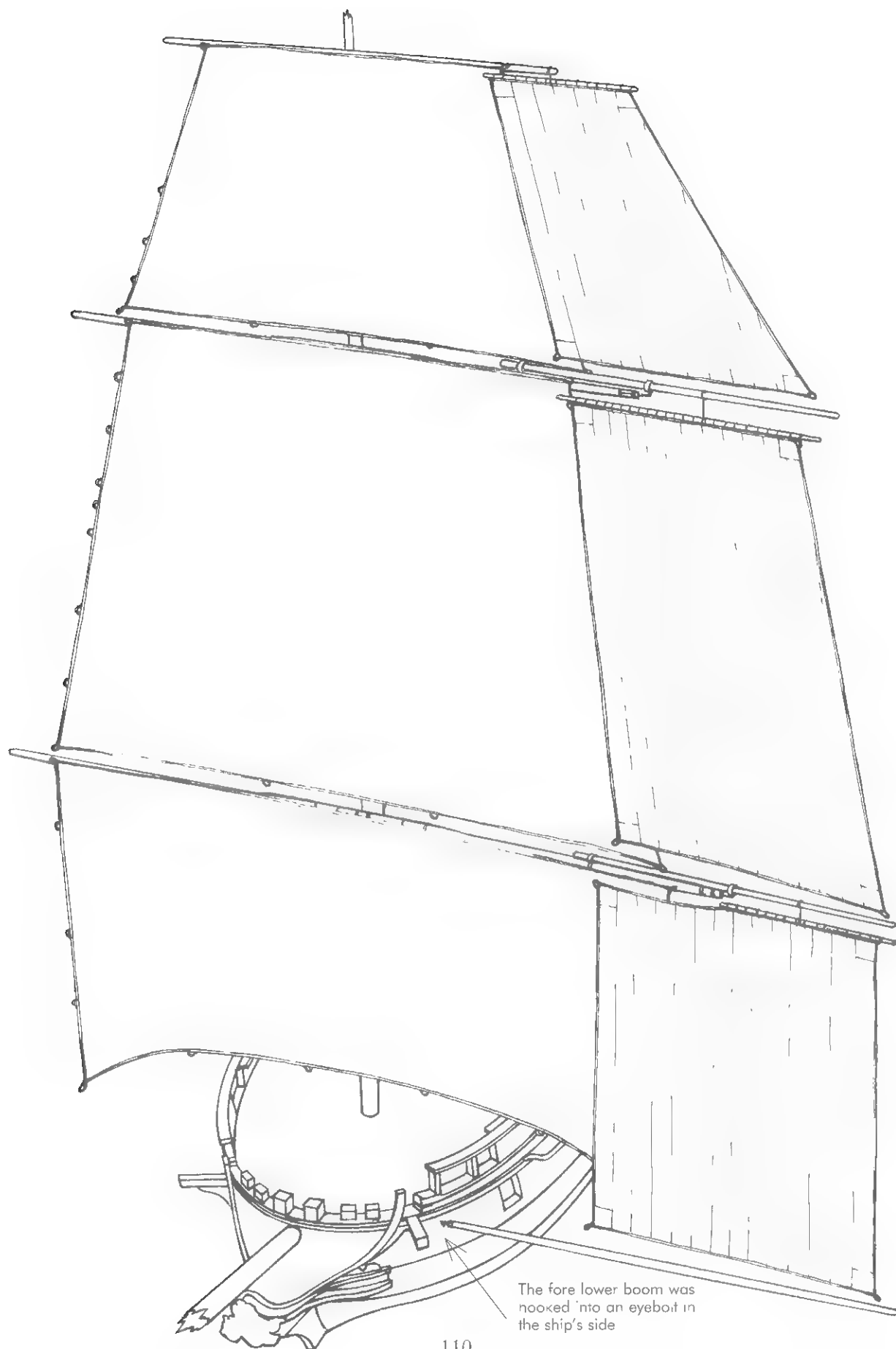
# Fore and aft Sails



# Studding Sails

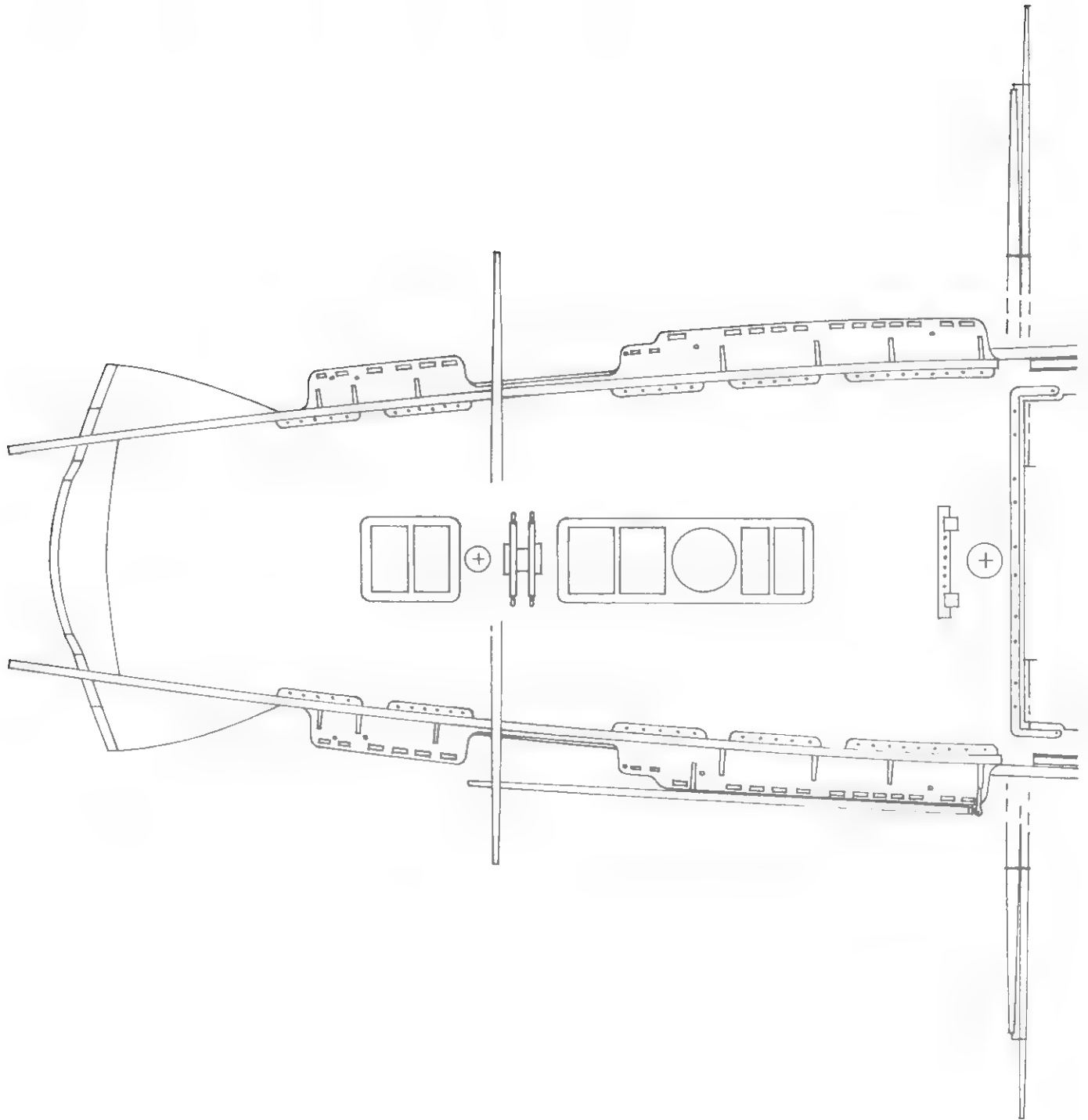




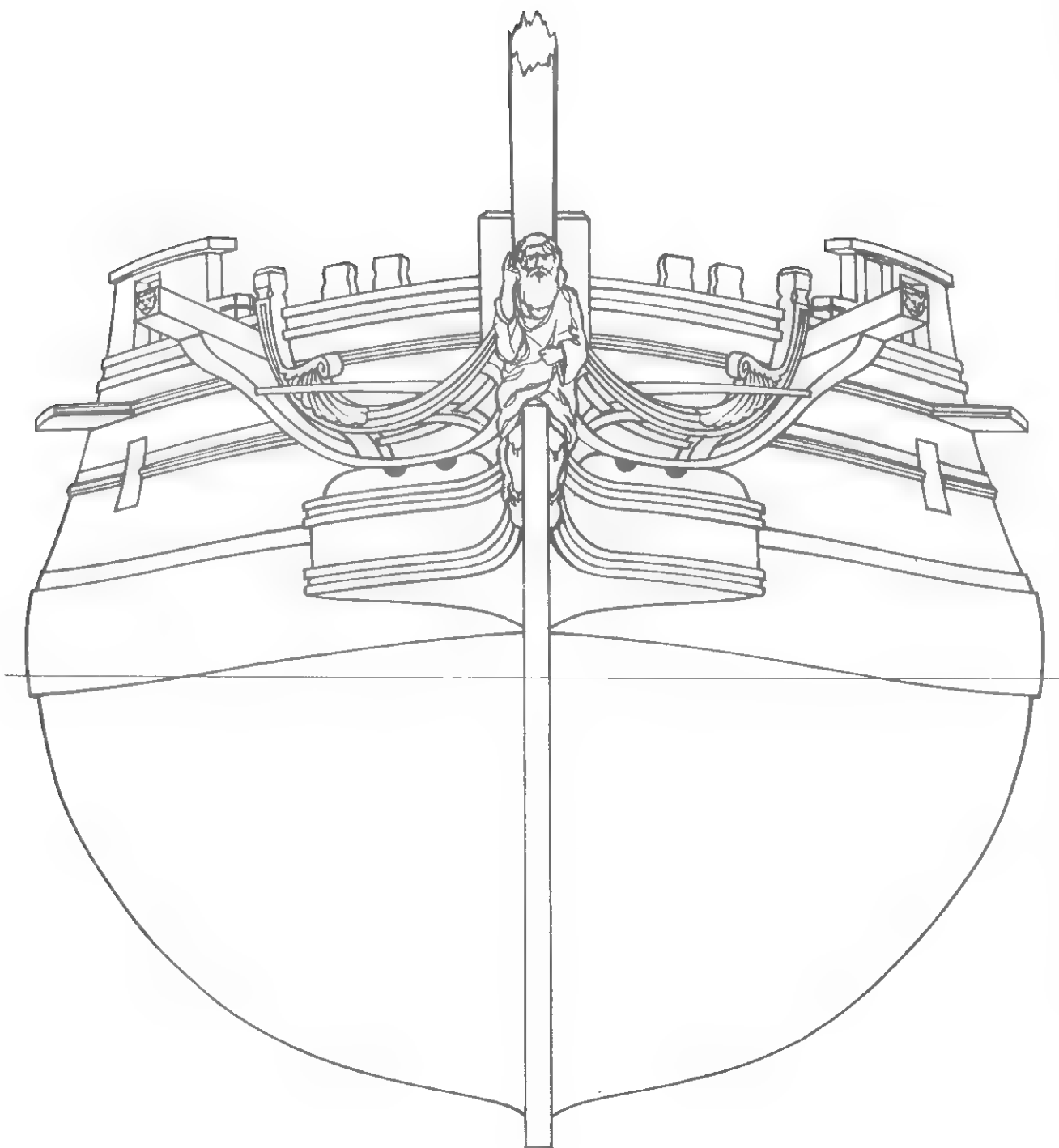


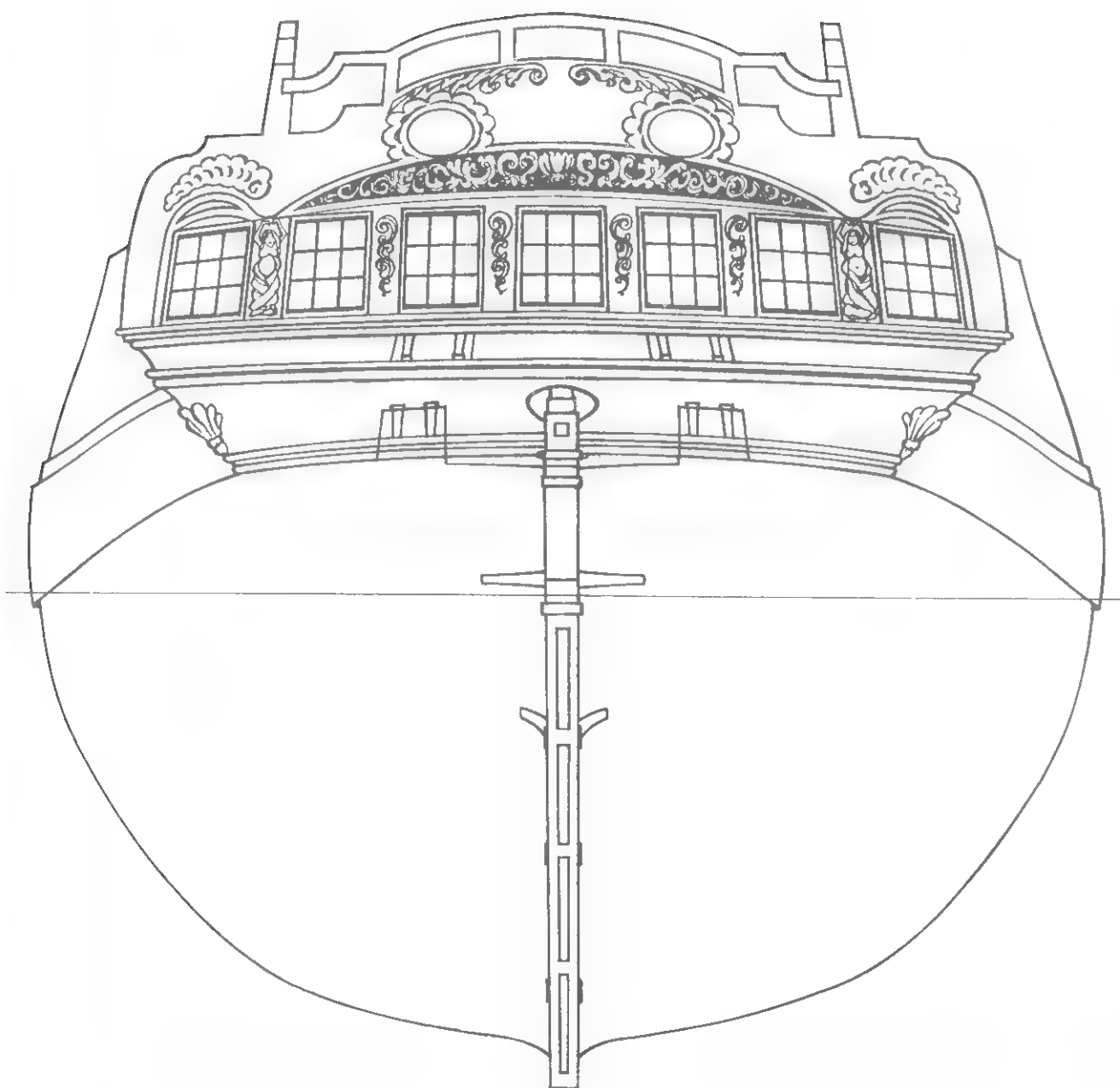
The fore lower boom was  
hooked into an eyeboat in  
the ship's side

# Quonset Deck

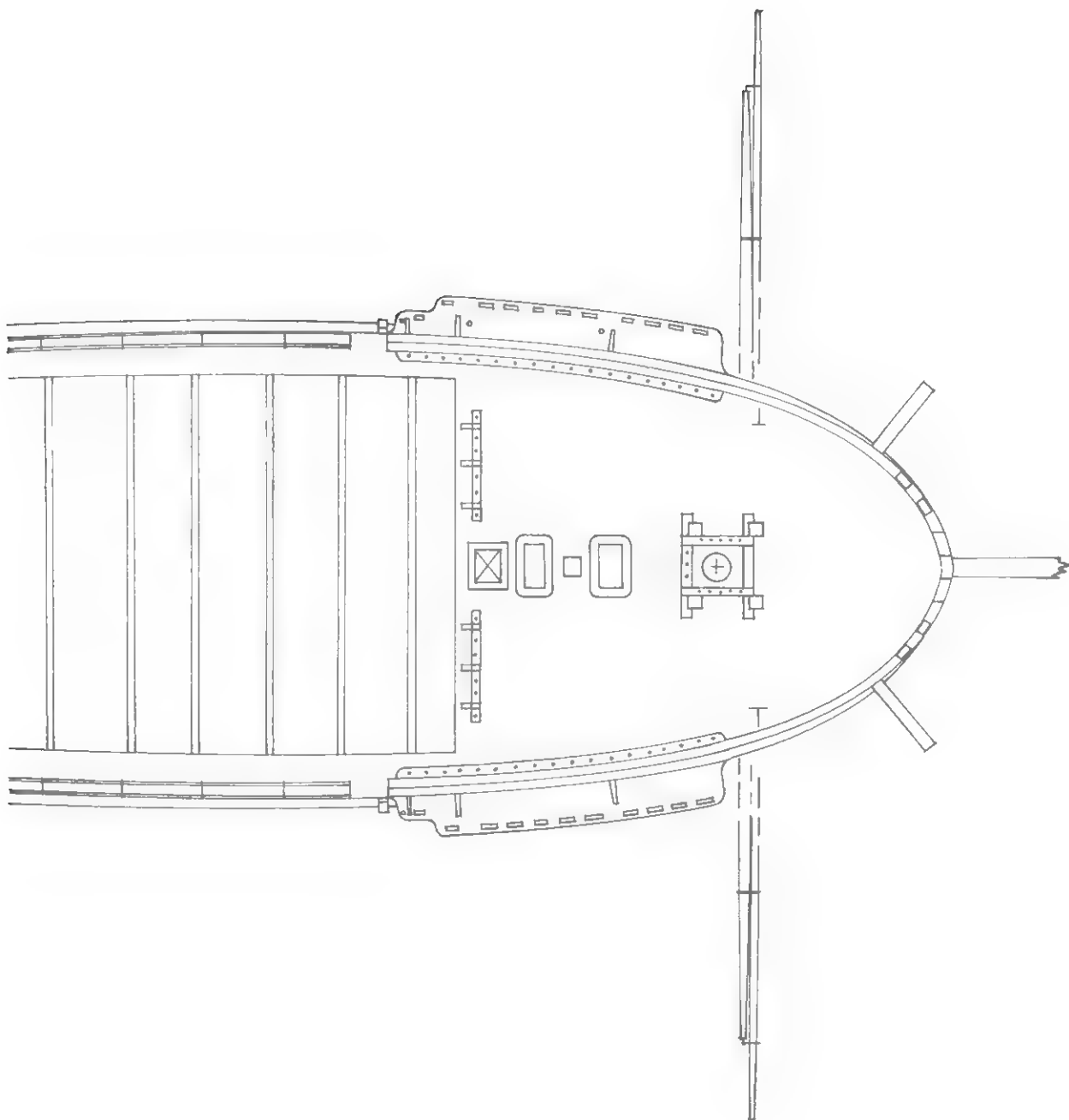


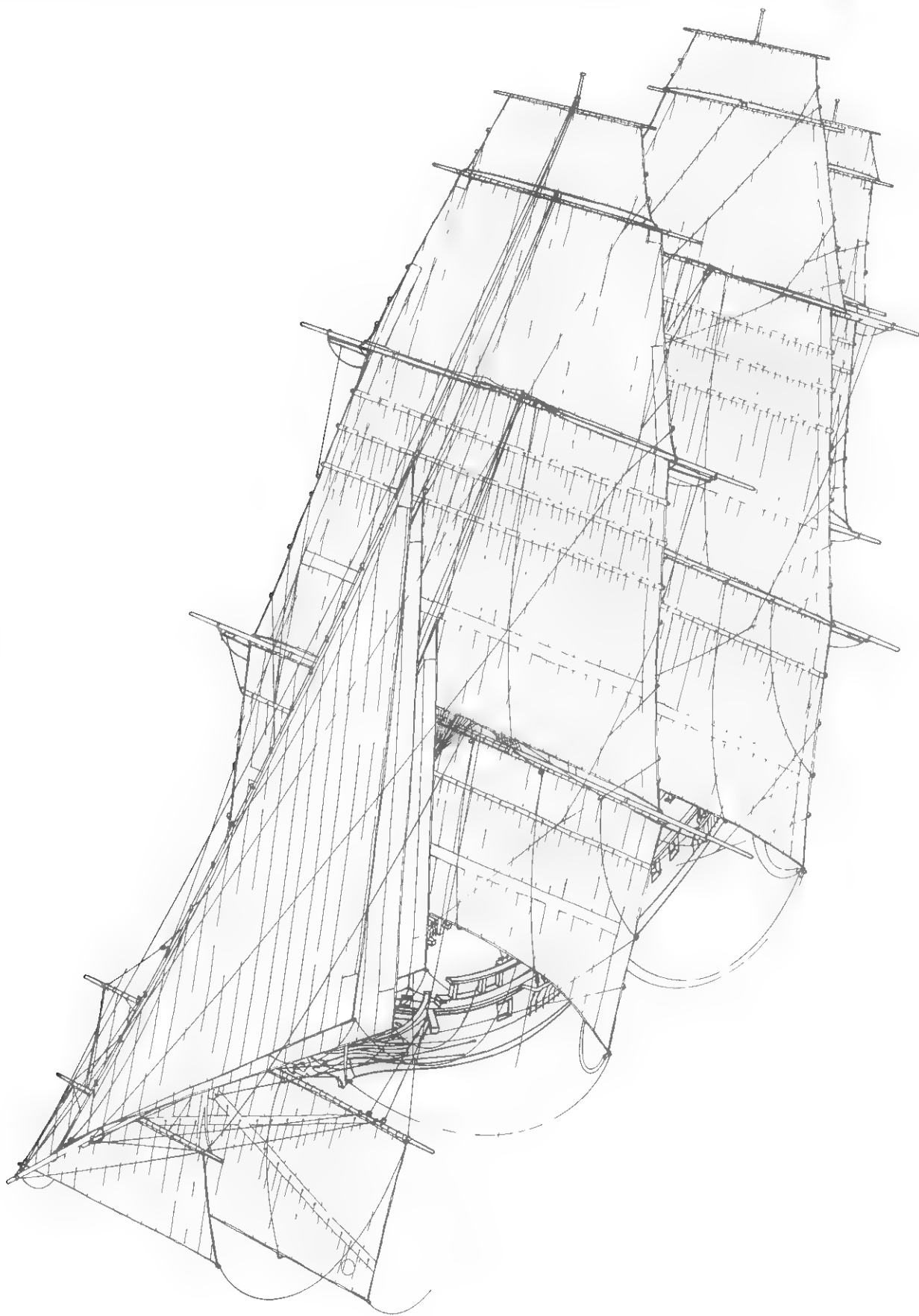






# Woon de Frykastele





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# Rigging

## PERIOD SHIP MODELS

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